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See page 50

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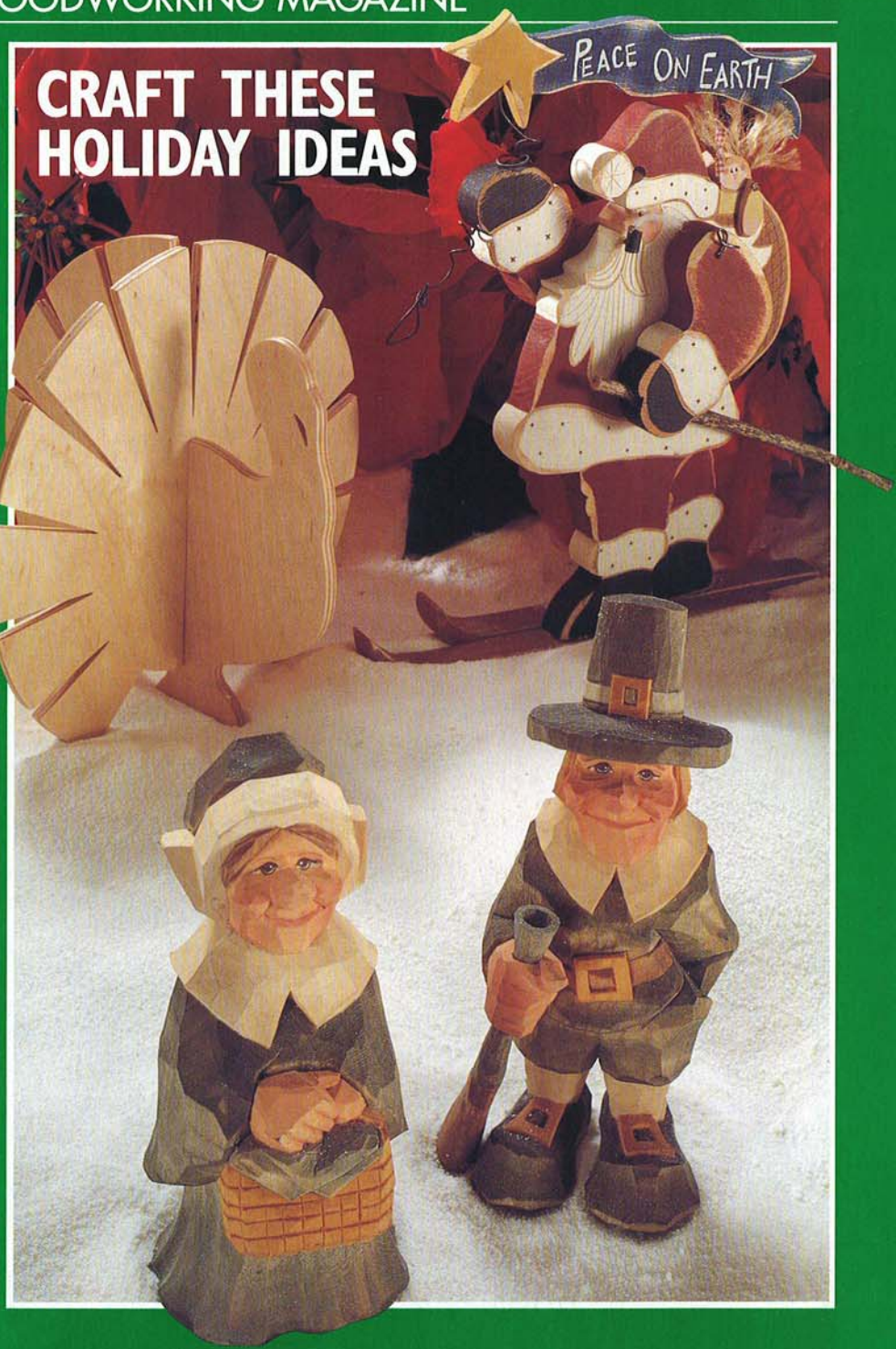

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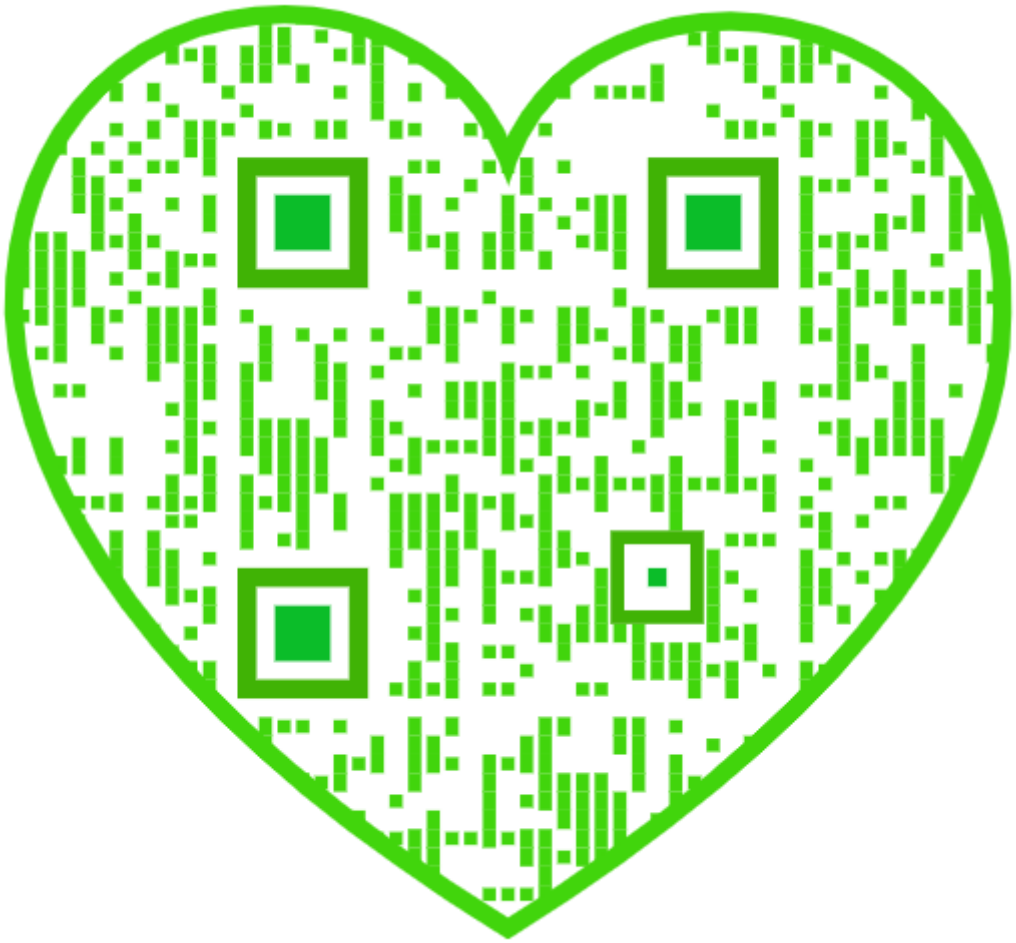

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THE EDITOR'S ANGLE

Print this article

WOW! TALK ABOUT A TOUR GROUP!

Over the past several years, lots of *WOOD*® magazine readers have dropped in on us to take a tour of our shop and meet the staff. We even had a couple of readers from South Africa visit us once. But recently, we entertained our largest group ever. Forty-three members of the Kansas City Woodworkers' Guild—the folks in the photo *above*—made the 190-mile trek from Kansas City to Des Moines on a charter bus to pay us a visit. And we're flattered that they did.

Fortunately, Guild Treasurer Tom Hogard gave us some advance notice so that we could get set up for the group. *WOOD* Managing Editor Jim Harrold, our guide for the day, treated the group to a slide show of *WOOD* magazine's IDEA SHOP™, a tour of our offices, and a look at the 1992 Build-A-Toy™ entries. They also saw our on-premises shop where we build the projects you see in the magazine. Here's hoping that you all had a great time. And thanks for coming to see us.

GIVE US YOUR TWO-CENTS WORTH

WE NEED YOUR INPUT

I've got a favor to ask. On *pages 31* and *32* of this issue, we've included a list of questions we'd like to get your responses to. Filling in your answers won't take long, and the information we gather from this survey will help us keep *WOOD* magazine focused on those subjects and projects that best serve your woodworking needs. Thanks in advance for helping us serve you.

Larry Clayton

Photograph: John Hetherington

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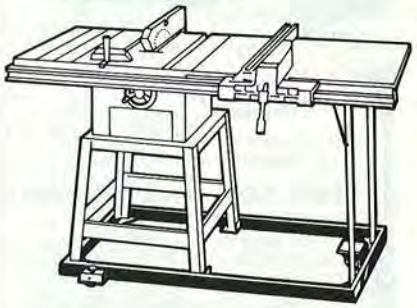

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This issue's cover wood grain: maple *Cover photos: Wm. Hopkins*

NOVEMBER 1992 ISSUE NO. 56

CRAFTSMAN CLOSE-UP 37
Carved intarsia
Find your woodworking niche, develop a line of attractive designs, and the world of small business will welcome you with open arms. That's the message of Maine's successful craftsperson Ellen Harrington, a carved-intarsia specialists who hand-paints her every work.

GIFT SECTION 40
Holiday horn of plenty
Add spice to this year's Thanksgiving festivities with a colorful carved-intarsia project that symbolizes our country's great bounty.

Tabletop Tom 42
Scrollsawers, you'll count your blessings this November once you see this stylized, two-part turkey cutout, complete with full-sized patterns.

Grateful Pilgrims 44
Looking for two terrific table decorations for your holiday dinner? Try carving this handsome couple in the old-world flat-plane tradition.

Alpine Santa 48
It's not too soon to get in the spirit of Christmas with this delightful decoration of Santa on snow skis.

HOT NEW PRODUCTS 50
15 Top-performing woodworking products
Be a better woodworker with the precision, quality, and general usefulness of the products found here. We tested each one to make sure they're a good fit for your shop.

Affordable elegance 58

Bring light to a dark corner in your home with this inexpensive, good-looking table lamp. We fashioned ours with quilted maple for added effect, and used a basic lamp kit for the simple, straightforward wiring.

DEVELOP YOUR SHOP SKILLS

How to sharpen and use a scraper 60

When members in a wood joint don't even up, you can get mad, or get a scraper and quickly make things right. Let us show you how.

Is your shop secure from thieves? 62

Tools cost money, and big tools cost big money. Protect your investment from burglary with the crime-stopping advice gathered here.

TOOL BUYMANSHIP

Tool-buyer's roundup 64

See what power-tool models best meet your needs in our reviews listed below.

- Cordless drills 64
- Drill presses 66
- Jointers 68
- Portable belt sanders 70
- Routers 72
- Scrollsaws 74
- Tablesaws 76
- Thickness planers 78

IDEA SHOP

Sanding-supply center 80

This innovative wall-hung storage unit provides a home for six separate sanding items, including belts, strips, rolls, discs, and more.

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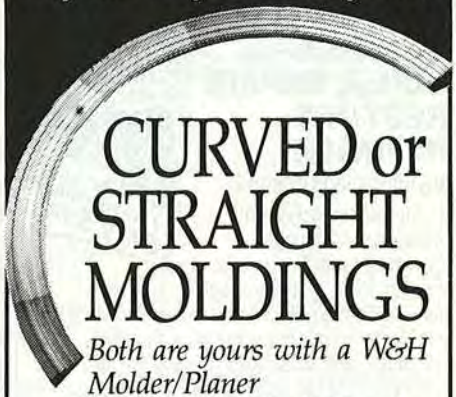

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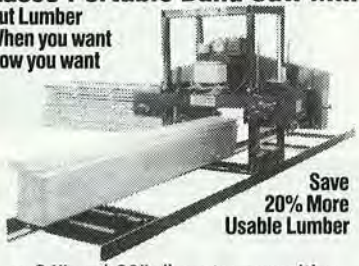

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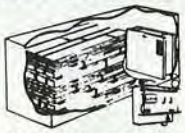

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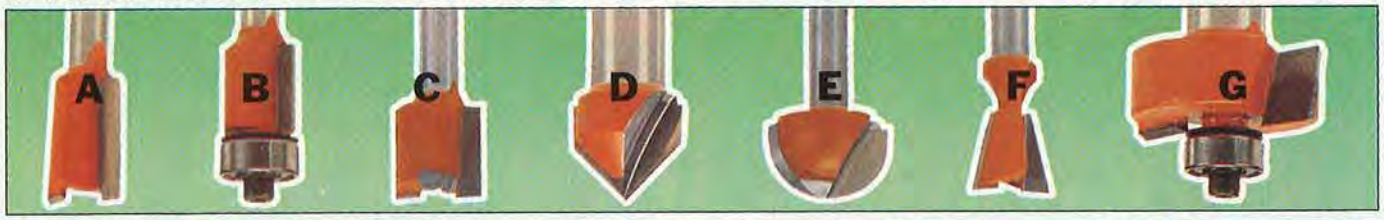

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837-722	1/2"	1/2"	1/4"	$27.40
837-850	1/2"	5/8"	1/2"	$29.60

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ITEM #	SHANK	HEIGHT	RADIUS	PRICE
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838-317	1/4"	9/16"	3/8"	$24.70
838-380	1/4'	3/4"	1/2"	$27.90
838-754	1/2"	1/2"	1/4"	$24.30
838-880	1/2"	3/4"	1/2"	$34.90

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J. Carbide Chamfer Bits

ITEM #	SHANK	DIA.	HGHT.	ANG.	PRICE
836-130	1/4"	9/16"	1/2"	15º	$21.50
836-190	1/4"	3/4"	1/2"	25º	$21.50
836-420	1/4"	1-5/8"	3/4"	45º	$27.70
836-920	1/2"	1-5/8"	3/4"	45º	$26.90

K. Carbide Roman Ogee Bits

ITEM #	SHANK	LGTH.	RADIUS	PRICE
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840-350	1/4"	3/4"	1/4"	$31.50
840-770	1/2"	1/2"	5/32"	$30.30
840-850	1/2"	3/4"	1/4"	$31.10

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822-320A	$23.10	822-320B	$25.90	5/64"
822-324A	$23.10	822-324B	$25.90	3/32"
822-332A	$23.10	822-332B	$25.90	1/8"
822-340A*	$23.10	822-340B*	$25.90	5/32"
822-348A	$23.10	822-348B	$25.90	3/16"
822-360A	$23.10	822-360B	$25.90	15/64"
822-364A	$23.10	822-364B	$25.90	1/4"

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800-503	12-Pc. 1/4" Shank Set, w/ Chamfer, Rabbet, Radius, Flush Trim, Cove, Ogee, Dovetail, V-Groove, Mortising, Round Nose & 2 Straight	List: ~~$224.40~~	**Sale: $159.00**
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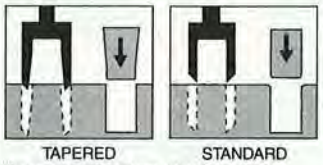

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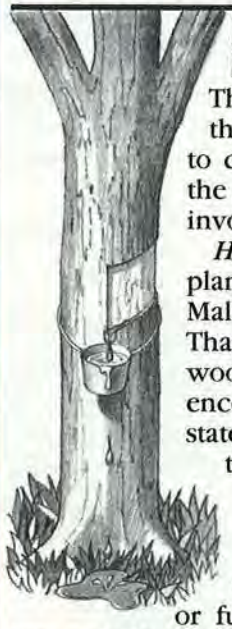

Para-rubber tree anecdote bounces back

The "Wood Anecdote" (*page 25* in the June 1992 issue) compels me to comment. For the record, I spent the past 12 years in the Pacific Rim involved in wood industries.

Heavea brasiliensis was widely planted in southeast Asia, mostly in Malaysia and Indonesia, but some in Thailand, too. It may be true that as a woodworker, "you'll probably never encounter rubber-tree wood," as you state. But, rubber-tree wood has been the wood of choice for most Asian furnituremakers for nearly 10 years, although it has some quirks. For instance, you must treat it immediately after cutting or fungi and beetles turn the wood into a multi-colored nightmare. The beetles create a blue stain and when their eggs hatch, the larvae can tunnel out of the tabletop to share dinner!

Lawrence Z. Y. Moh, founder and chairman of Universal Furniture, Ltd., developed a process that makes rubber-tree wood quite usable. The timber is sawed at the site and immediately subjected to a pressure treatment with a solution of borax and related chemicals. This oxidizes the stain and poisons the beetle larvae.

The wood—exceptionally light and clear in color— has a pleasing swirly grain that finish enhances. But due to this same grain, the wood warps if used in lengths greater than about 40 inches. A journey to nearly any furniture retailer will provide examples of rubber-tree wood used in everything from "country" cabinets to dining sets.

—J. W. Maner, Jamestown, N.C.

If all else fails, follow the owner's manual for the right answer

I would like to add to the answer given to Henry Latsch concerning circle cutters in your June 1992 issue. I also had the problem of the chuck falling off my drill press when using a circle cutter. I tried several times to reset the chuck, but it would slip off again. I finally went back to the owner's manual. It said to clean the press shank and the chuck core. After cleaning and reassembling, I have been cutting circles without problems.

—Frank Cloutier, Wakefield, Kans.

continued on page 10

Print this article

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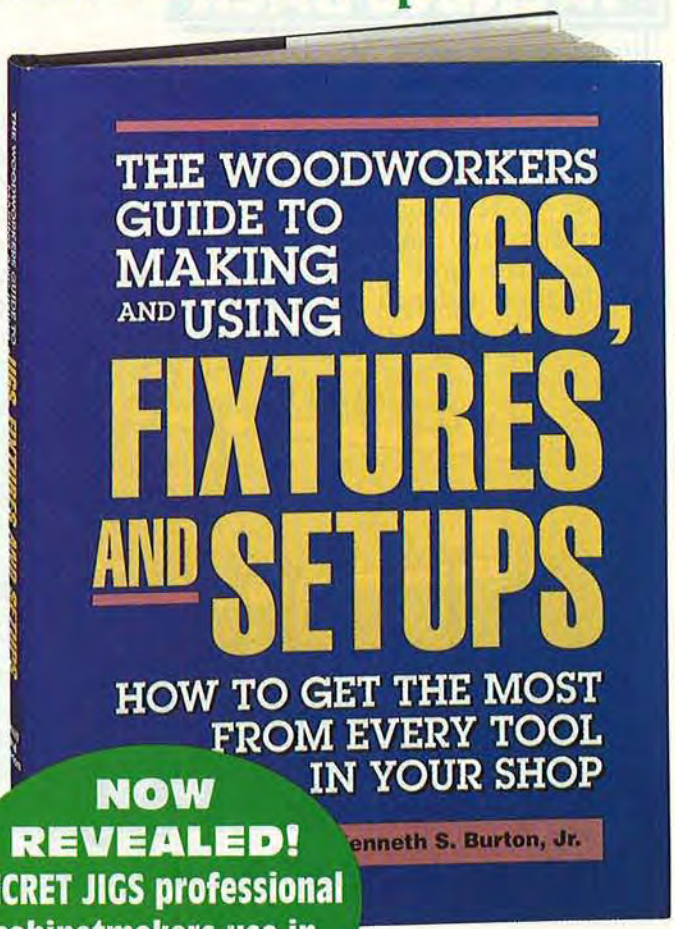
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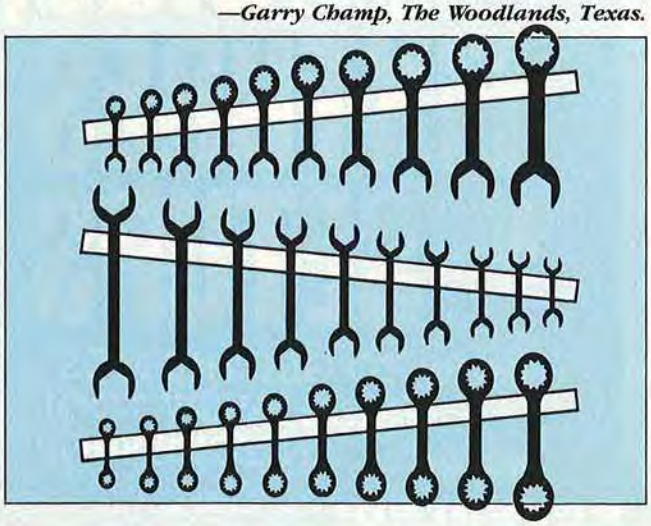
TALKING BACK

continued from page 8

A new twist on our wrench rack

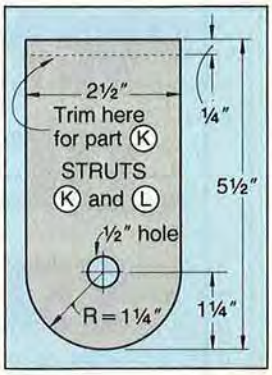
I enjoy *WOOD®* magazine and look forward to each issue. I would like to make a suggestion on how to improve the "Wrench Rack" in the April 1992 issue. Most woodworkers have several wrenches and often more than one style. To accommodate more wrenches in a smaller amount of wall space, I sloped the rack at a 10-degree angle.

—Garry Champ, The Woodlands, Texas.



Wagons, Whoa! (Correction)

When making the walnut wagon from the August 1992 issue of WOOD *magazine, make the rear strut (L) 5½" long instead of the 5" listed. If you've already made the wagon, just add a ½" spacer between the wagon box (C) and the rear-strut spacer (M). This will level your wagon box.*



Lots of weight for little screws

I'm responding to your response to Rex Stoecker concerning mounting a Ryobi RE600 router into a ⅜" acrylic base for use in your router table, issue 33. I advise him and other readers not to use the very small screws that come with the router for mounting the base plate. By the time you countersink the screws, there is very little acrylic left to hold the weight of that heavy router. But, the RE600 also has four other larger tapped holes. I used these instead and have not had a problem.

—Norman Singer, Seaburst, Wash.

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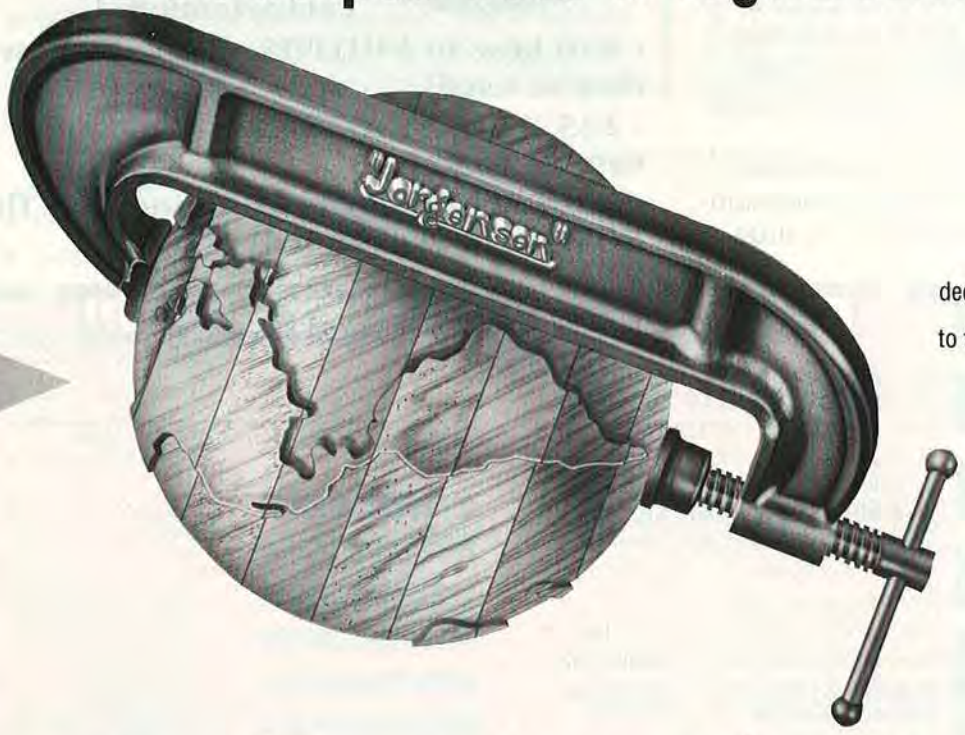

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Where to buy mesquite lumber

I've been a subscriber to your fine magazine for about two years now. I compliment you on your fine designs and tool evaluations. I know you have written articles on our native mesquite (a truly beautiful wood). However, I've been unable to locate any source of dimensioned or rough-sawn lumber. Would you know of a source?

—Fred Kite, La Pryor, Texas.

Fred, your problem is similar to the sailor on the ocean who is dying of thirst. In your case, mesquite is growing everywhere around you, but not a twig can be found at the lumber store. Fortunately, Paxton Lumber in Austin, Texas, does sell mesquite. And, they will ship it to any location in the country. "Our stock is four quarter and ranges from 3" to 5" in width and from 2' to 5' in length," says David Morris, a Paxton salesman. "As of now, no grading procedures have been set for mesquite. Grain patterns vary widely, so don't expect to find the eveness you might find in walnut or oak."

If you'd like to order or get more information on mesquite, contact Paxton Lumber, P.O. Box 17968, Austin, TX 78760, or call 512/443-0777.

Loves "Performance Profiles"

Every time I pick up a copy of *WOOD®* magazine (new or old), I find something of interest to me as a novice woodworker. But, the most enjoyable articles are the ones on the different types of wood and accompanying "Performance Profiles." I think a collection of these in a binder would be a most treasured item. I doubt that even the old-timers can remember all the characteristics of lumber types.

I shop at a wood store that stocks over 50 species of wood. That's bewildering for a beginner trying to pick a correct wood for a project. A handy booklet would sure be nice to have along for reference.

—Bob Jarboe, Richardson, Texas.

A book of wood profiles and their performance is a great idea, Bob, and lots of readers have made the same request. Someday we hope such a reference will be a reality.

continued on page 12

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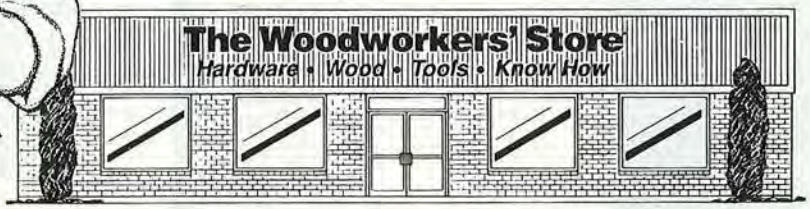

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C1290	1-1/2"	5/8"	2-1/4"	1/2"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
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C1292	1-1/2"	5/8"	2-1/4"	1/2"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1293	1-1/8"	1/2"	2-1/8"	5/16"	$25.00
C1294	1-3/8"	11/16"	2-1/4"	7/16"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1295	1-1/8"	1/2"	2-1/4"	5/16"	$25.00
C1296	1-3/8"	5/8"	2-1/2"	7/16"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1297	1-1/4"	5/8"	2-1/8"	3/8"	$25.00
C1298	1-3/8"	5/8"	2-1/8"	7/16"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1299	1-3/8"	1/2"	1-3/8"	7/16"	$25.00
C1300	1-5/8"	3/4"	2-1/2"	9/16"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1301	1-1/2"	3/4"	2-1/4"	1/2"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1302	1-5/8"	7/8"	2-3/4"	9/16"	$25.00

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PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	BEAD DIA. b	PRICE
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TALKING BACK

Continued from page 11

Bookcase is a great success!

I have greatly enjoyed each and every issue of *WOOD®* magazine. During the winter, I often reread many of the back issues. Recently, I completed a custom bookcase based on the fine walnut one depicted in issue 50. I was pleased with the clarity of this article as I am with all. It made the building of the bookcase very easy. And, what's more, it proved a wonderful success.

—Bart Taylor, Tuolomne, Calif.

On the prowl for our laminated bowl

I was intrigued with the photo of the turned bowl in the April 1991 "Ask *WOOD*" and would like to know how the bowl was laminated to create such a beautiful piece of art. Maybe you can help.

—David Yeoman, Aurora, Colo.

We have great news, Dave. The photo you saw came from a project featured in an earlier WOOD *magazine. For tear sheets of the plans, or of any other article, send $2 to this address:*

WOOD Magazine
Reprint Service
1912 Grand Avenue
Des Moines, IA 50309-3379
(Include the article's title and issue number.)

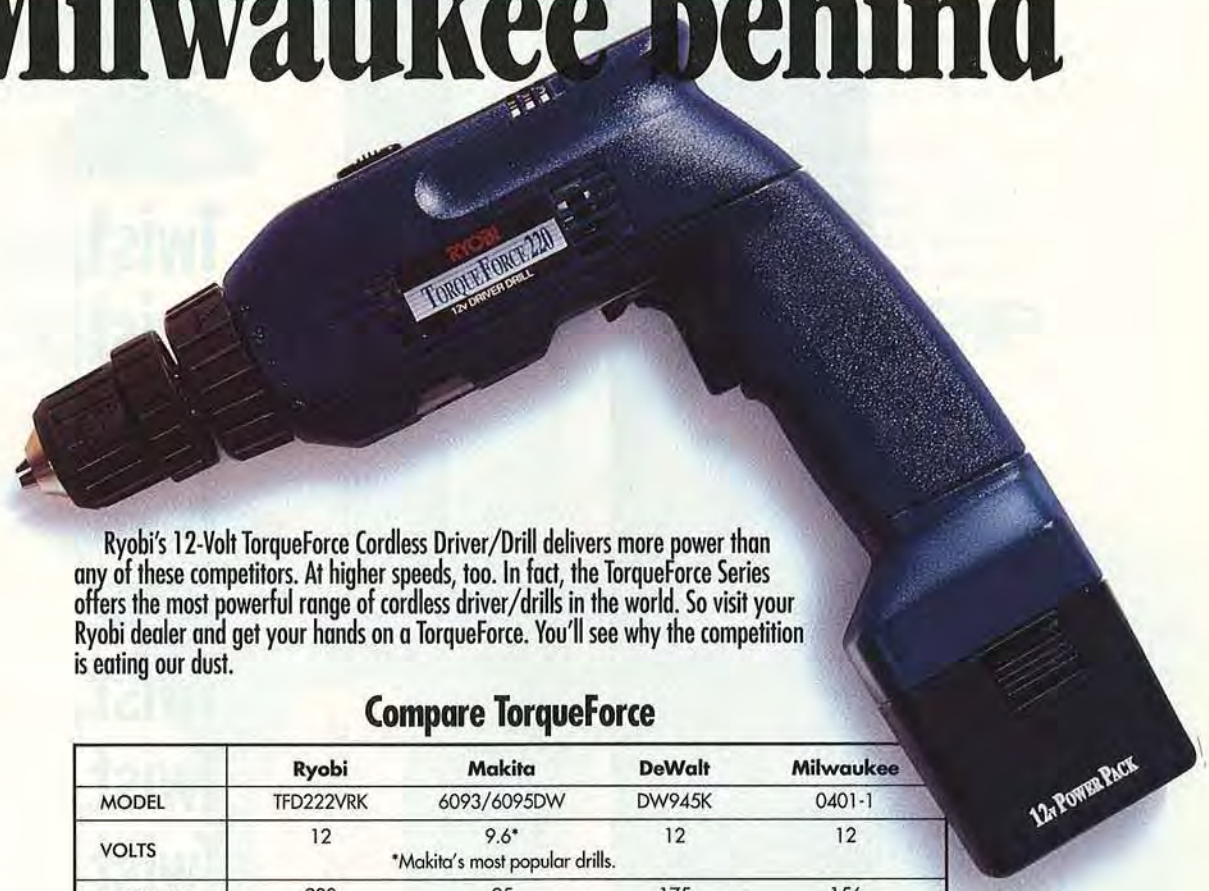
Quite a quandry over quassia

In your April 1992 issue, *page 31,* there is a story about a quassia tree and its wonderful properties as a cure-all and insecticide. We've called garden centers in our area and they've never heard of it. We'd really like to try some of the quassia wood chips. Do you know of any sources?

—Peggy Ede, White City, Ore.

We've been searching high and low for a source, Peggy. Quassia was available at one time, but, so far, we haven't come up with any on today's market. If any reader has information on how to obtain the quassia plant or quassia wood chips, please contact us at our "Talking Back" address.

TorqueForce® outguns Makita, decks DeWalt and leaves Milwaukee behind



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VOLTS	12	9.6* *Makita's most popular drills.	12	12
MAXIMUM TORQUE (in-lbs)	220	95	175	156
	TorqueForce packs 26% more turning power than DeWalt, 41% more than Milwaukee and a whopping 132% more than Makita.			
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	While DeWalt manages to match Ryobi's speed, TorqueForce runs 18% faster than Makita and a full 30% faster than Milwaukee.			
SPARE BATTERY INCLUDED	Yes	No	No	No
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EARN CASH, PRIZES FOR YOUR TOP SHOP TIP

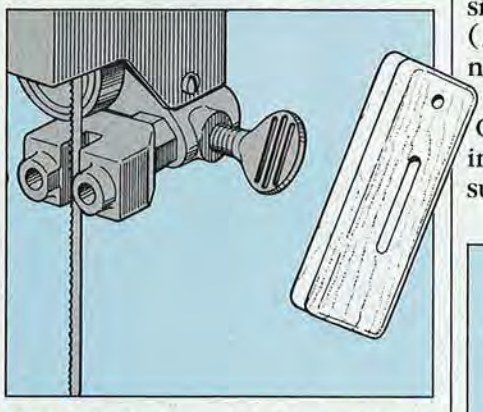
Do you have a great shop tip (or two) you'd like to share with other *WOOD*® magazine readers? For each published submission, you will get at least $40 from *WOOD* magazine (as much as $200 if we devote a page or more of space elsewhere in the magazine to your idea). You also may earn a woodworking tool for submitting the Top Shop Tip for the issue.

We try not to use shop tips that have appeared in other magazines, so please send yours to only one. *We do not return shop tips.* Mail your tip(s), address, and daytime phone number to:

Top Shop Tip
WOOD magazine
1912 Grand Ave.
Des Moines, IA 50309-3379

Scrapwood wrench turns troublesome thumbscrews

Sometimes, you just can't grip a thumbscrew firmly enough to tighten or loosen it. Plus, you can't get the leverage you need.



TIP: Scrollsaw a slot large enough to fit over the thumbscrew in the center of a piece of ⅜" to ¾"-thick scrapwood about 1½×4". Round the corners and edges of this wooden wrench, and drill a hanging hole in one end.

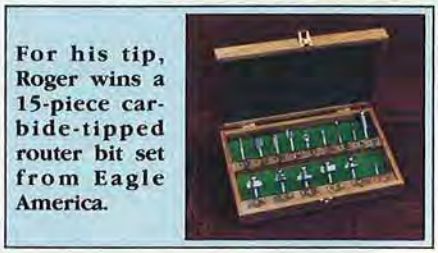
—John Seidel, Smyrna, Ga.

Shelf supports hold boards on bench, too

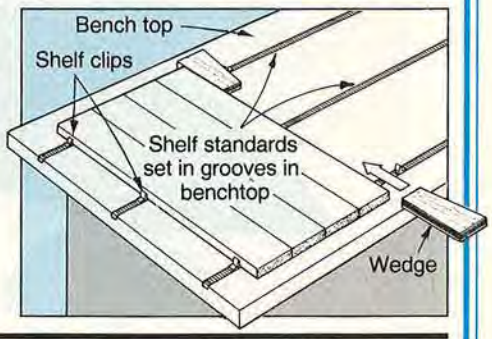
Wedging a workpiece between adjustable bench stops makes sanding and other operations easier. But laying out and drilling holes for the stops is far from easy.

TIP: Rout grooves instead of drilling holes. Install 4'-long steel shelf standards into routed grooves in your benchtop, setting the faces of the standards slightly below the surface. Space them 9–12" apart, or to meet your requirements. Then, just place shelf clips as necessary, securing the workpiece with wooden wedges. (You also could position the clips to work as stops with your vise.) Remember to apply force to the top of the shelf clips.

—Roger Sauerbrunn, Dongola, Ill.



For his tip, Roger wins a 15-piece carbide-tipped router bit set from Eagle America.



As your teacher told you, algebra can come in handy

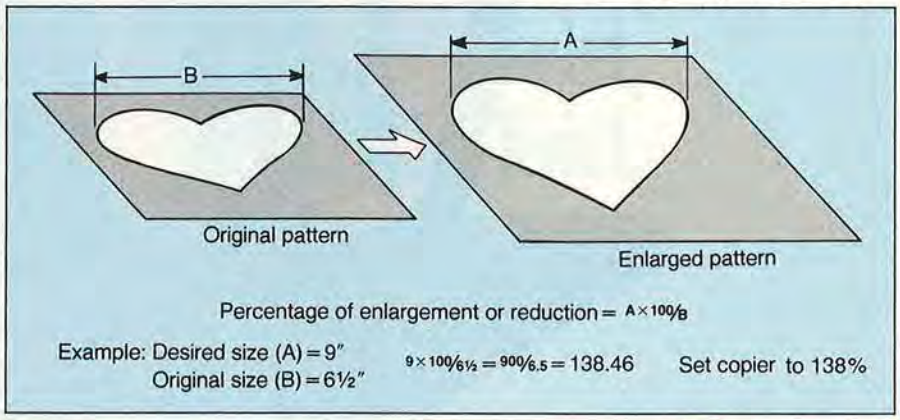
You've stacked up a bunch of photocopies at a dime each, trying to hit the right percentage for enlarging or reducing a pattern. Isn't there some way to figure this out ahead of time?

TIP: Remember high school algebra? Use it now to determine the enlargement or reduction ratio you need. Simply multiply the size you want the pattern to be (A) by 100. Then, divide that number by the original pattern size (B) to find your percentage. Of course, both numbers must be in the same unit of measurement, such as inches or millimeters.

For example: Say you want to enlarge the 6½"-wide heart shown *below* to 9" wide. A, the size you want, is 9". B, the size you have, is 6½". A times 100 equals 900. Enter that on your calculator. Punch the division button, and then enter value B, (6.5). Hit the equals button, and read your answer: 138.46. Enlarge your original at 138 percent.

It works for reducing a pattern, too. To make a 5" heart from the same pattern, simply divide 500 (the size you want times 100) by 6.5 (the size you have). Round off the answer, 76.92, and set the copier at 77 percent.

—Reuel Smith, Halifax, Nova Scotia



Continued on page 18

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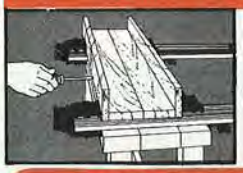

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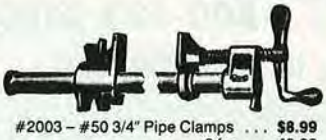

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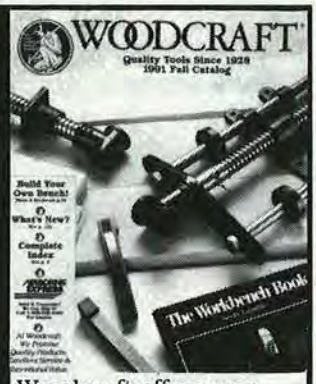

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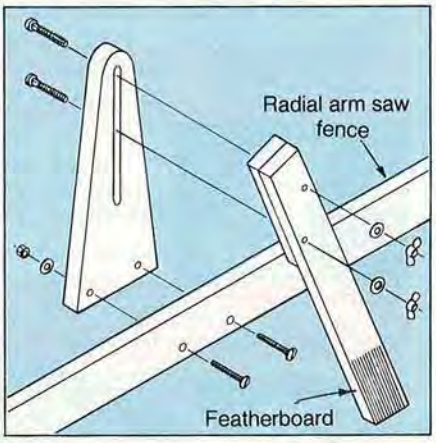
TIPS FROM YOUR SHOP (AND OURS)

Continued from page 16

Featherboards assist in radial-arm ripping

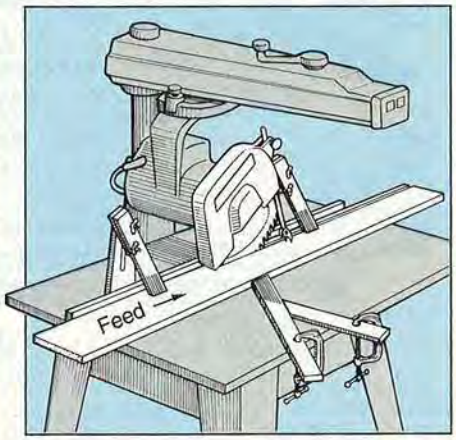
Most woodworkers cringe when it comes time to rip a thin strip from a board with a radial-arm saw. The jumping and chattering of the board and the fear of kickback make this an operation many would prefer to avoid.



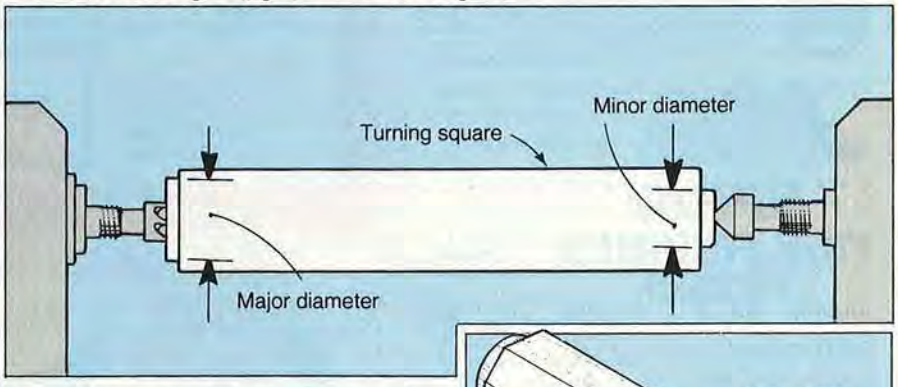
TIP: A trio of featherboards can provide relief when you rip with a radial-arm saw. Make two adjustable vertical featherboards like the one shown *top right*. Then, screw one to the saw fence on each side of the blade (as close to it as is practical). Adjust them to hold the workpiece down firmly while allowing you to feed it through without undue force.

Affix a third featherboard to the table to keep the board pressed against the fence. Now, rip the board using a thin-kerf carbide-tipped blade and a pushstick. This way, you'll get a cleaner cut and a less harrowing experience.

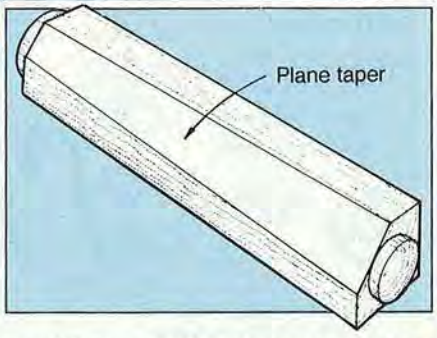
—Charles Williams, LaCombe, La.



To turn a taper, plane a flat spot



Turning a straight taper on a table or chair leg tests any woodworker's patience. It seems there's no easy way to do it.

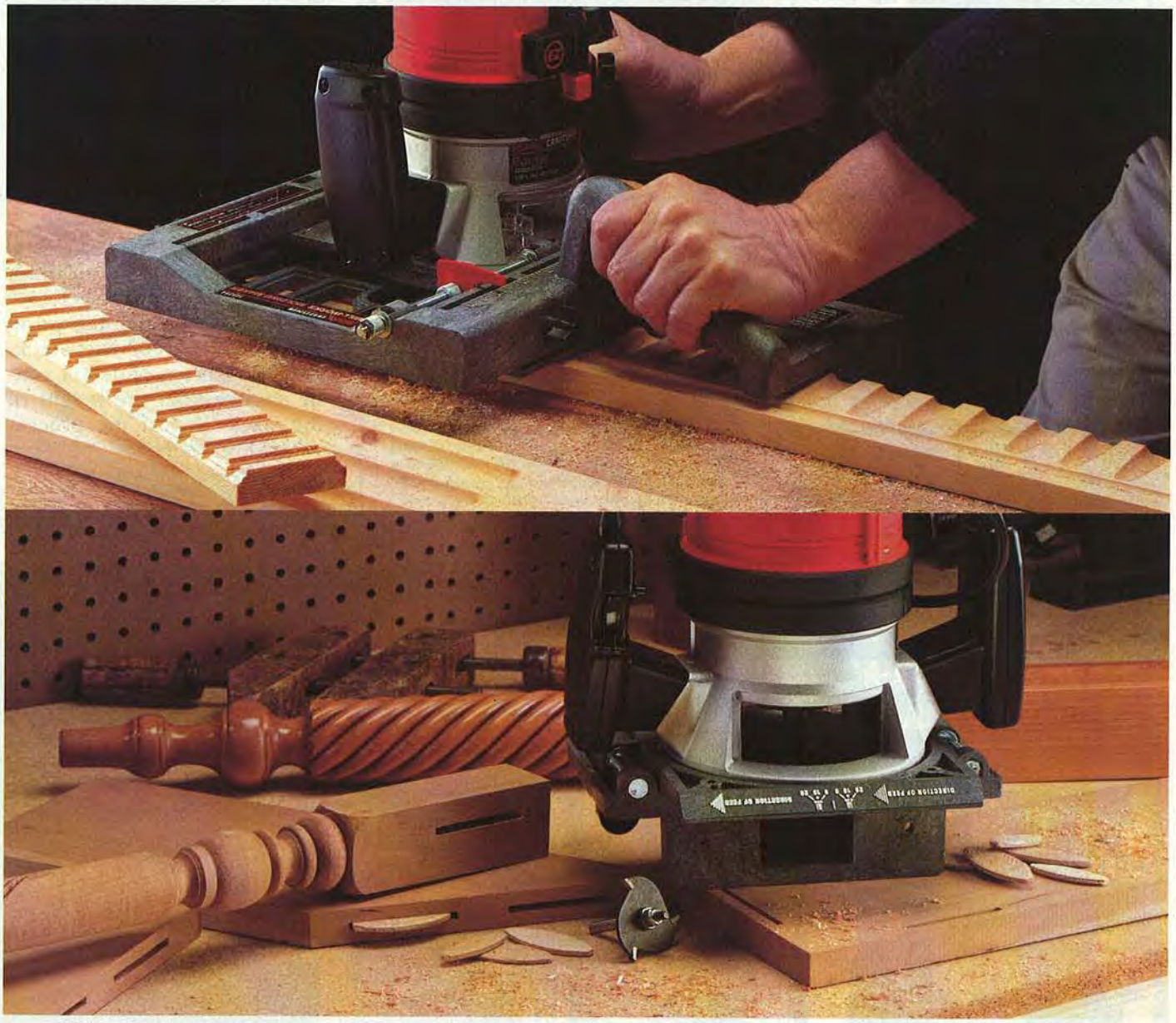


TIP: Give yourself a guideline to follow. Establish the major and minor diameters with a parting tool. Then, plane a straight taper between them, using the longest hand plane available. Check the tapered flat spot with a straightedge. When you start the lathe, you'll see a phantom guideline that you can follow right to a perfectly turned taper.

—From the **WOOD®** *magazine shop*

Continued on page 20

DON'T GET STUCK IN THE SAME OLD GROOVE.



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Continued from page 18

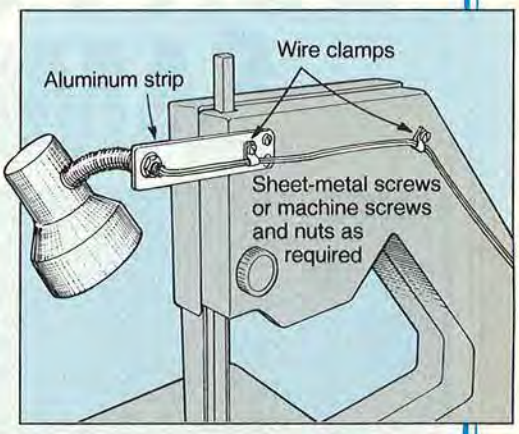
Spotlight your work with a reading lamp

No matter how well-lit your shop, nothing beats a tool-mounted work light for seeing what's going on. They're pretty expensive, though, so lighting up several tools could be hard on the wallet.

TIP: An adjustable reading lamp—the type made to clamp onto a bed headboard—costs less and works great. After removing the plastic clip from the threaded tube on the lamp, attach the lamp to a custom-made bracket. When you mount it to the tool, make sure that the lamp, the bracket, the cord, and the mounting hardware don't interfere with tool operation or create a safety hazard.

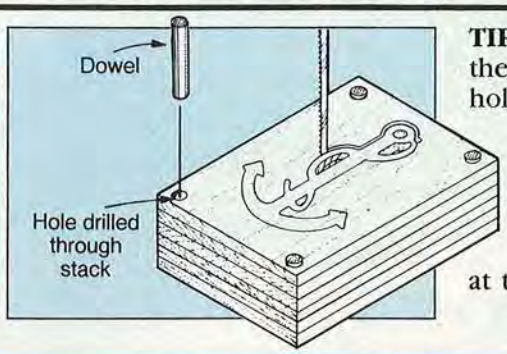
Hardware and variety stores and home centers sell the lamps. Also, don't toss out that clip you removed. It serves a number of needs around the shop, from clamping to holding plans.

—Roger Jewell, St. Joseph, Mich.



Dowels stack up well in scrollsaw cutting

By stacking several blanks and putting a pattern on top, you can scrollsaw duplicate pieces quickly. But, how do you hold the stack together? Nails or screws could split thin stock or scratch the saw table. Double-faced tape can be troublesome to remove.



TIP: The answer: Dowels. Stack the blanks as usual and drill a hole the size of your dowel (⅛" works fine) through the waste at one corner of the stack. Drive in a piece of dowel a little shorter than the height of the stack. Repeat the process at the other corners.

—Norman Bartlett, Peoria, Ill.

Continued on page 22

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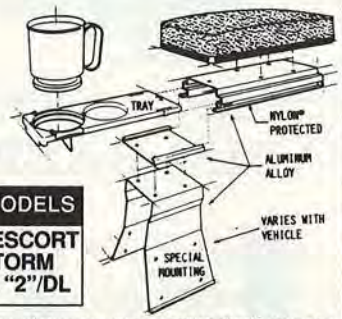

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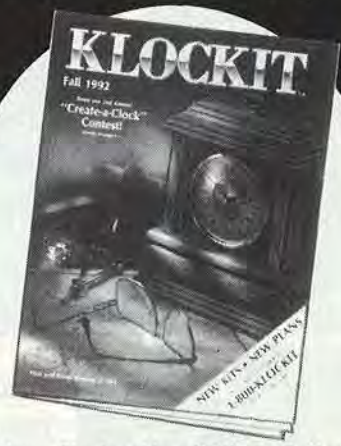

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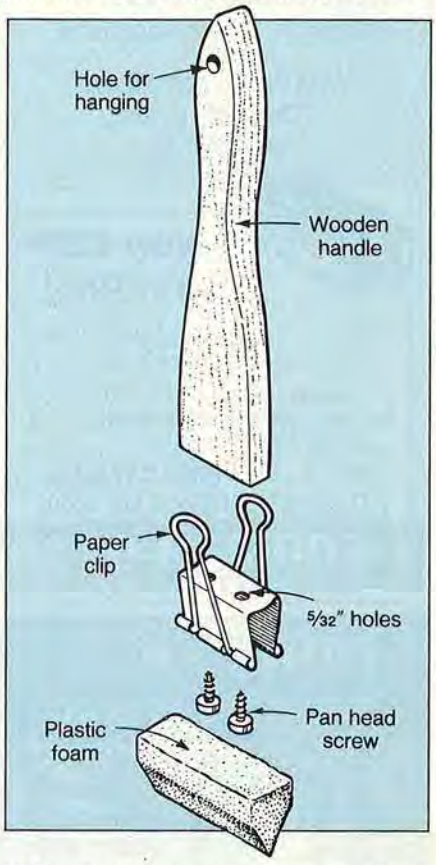
TIPS FROM YOUR SHOP (AND OURS)

Continued from page 20

Homemade brush features renewable foam "bristles"

For a small finishing job, there's nothing like a disposable foam brush for convenience. But just when you need one, you often find you've disposed of them all.



TIP: You'll always have a clean brush on hand for small jobs if you take a few minutes now to make a renewable foam brush. Bandsaw or scrollsaw the handle from a piece of scrapwood about ¾×1¼×7". Then, drill two 5/32" holes in a spring paper clip where shown, and attach the clip to the handle with two #6×½" panhead sheet metal screws. (The medium-sized clip shown measures ⅝" wide, and has 1¼"-long jaws.)

For the applicator, cut a piece of ½"-thick plastic foam to 1×1¼". (Bevel the end, if you like.) To use, grip the foam in the paper clip. Afterwards, just throw the foam away and insert a new piece so you'll be ready next time.

—Bob Dahlberg, Boulder, Colo.

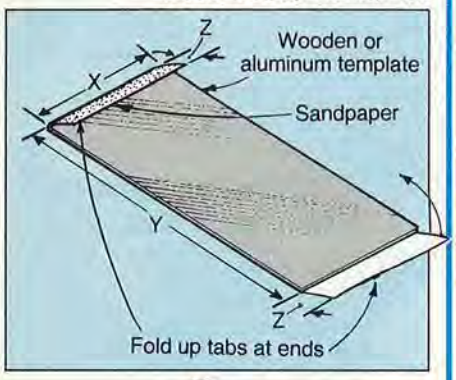
Fold tabs with a template to install sandpaper smoothly

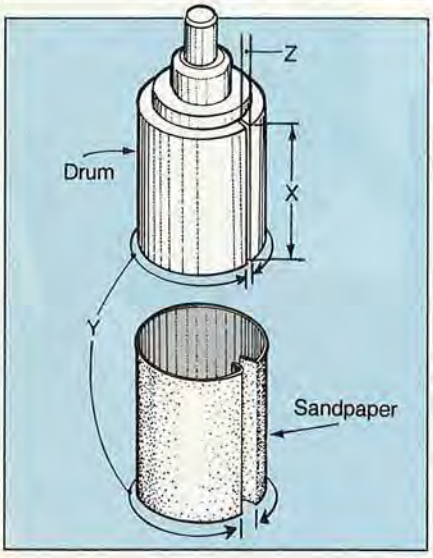
Many woodworkers like the economy of drum sanders that use strips of sandpaper. But sizing and installing those strips drives a lot of us crazy.

TIP: Cut a piece of sandpaper to the width of the drum (dimension X on the drawing). Make it long enough to fit around the drum (dimension Y) and to allow for a clamping tab on each end (dimension Z). (This may take some fiddling.) Then, make a template X-wide and Y-long out of wood or aluminum. Write on it the total length of sandpaper needed (Y plus the two tabs).

Now, whenever you need to replace the sandpaper, just cut an X-wide piece to the total length, center the template on back of it, and bend up the ends into tabs.

—Elliott Bloom, Miami, Fla.





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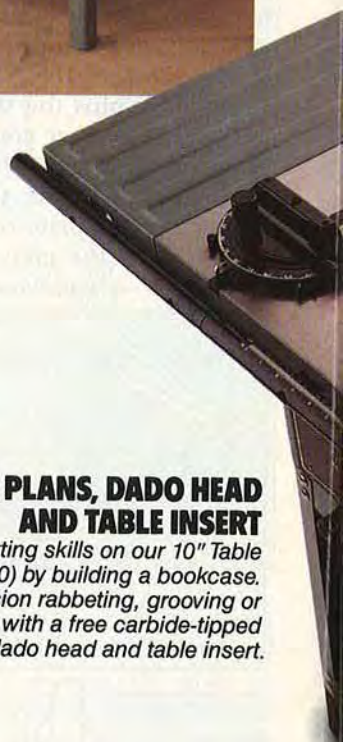
Our 14" Wood Cutting Bandsaw with 3/4 HP motor, enclosed stand and 6 1/4" thick cutting capacity is very simply, a classic. Comes with a fifty dollar rebate check from Delta.



FREE PLANS, DADO HEAD AND TABLE INSERT

Sharpen your cutting skills on our 10" Table Saw (Model 34-670) by building a bookcase. Learn precision rabbeting, grooving or ploughing with a free carbide-tipped adjustable dado head and table insert.

GREAT FROM ANY ANGLE

Our new 32" Radial Drill Press has five spindle speeds, swiveling head, traveling ram. Flexibility at any angle. Complete with free 3/8", 1/2" and 3/4" Forstner style bits. (Shown with accessory table.)

got more than you paid for?

ONE OF A KIND

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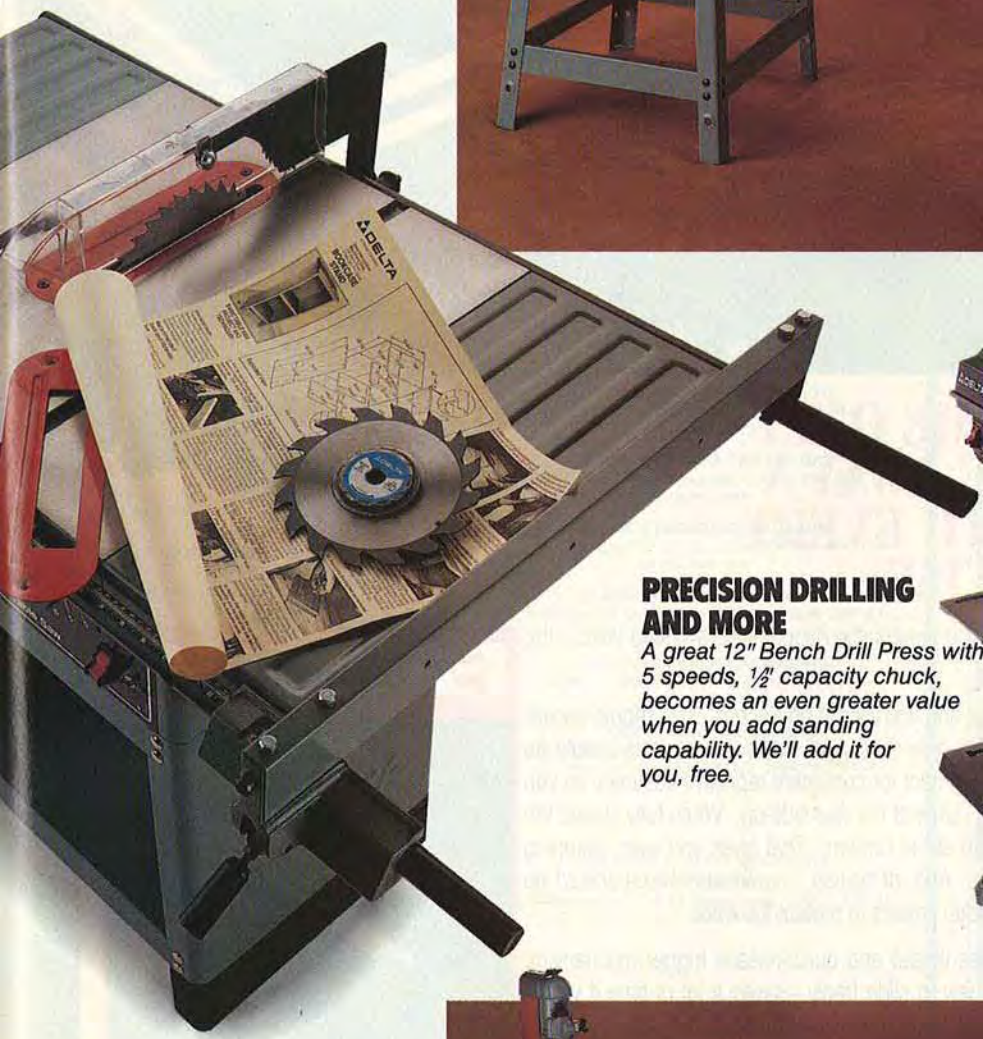
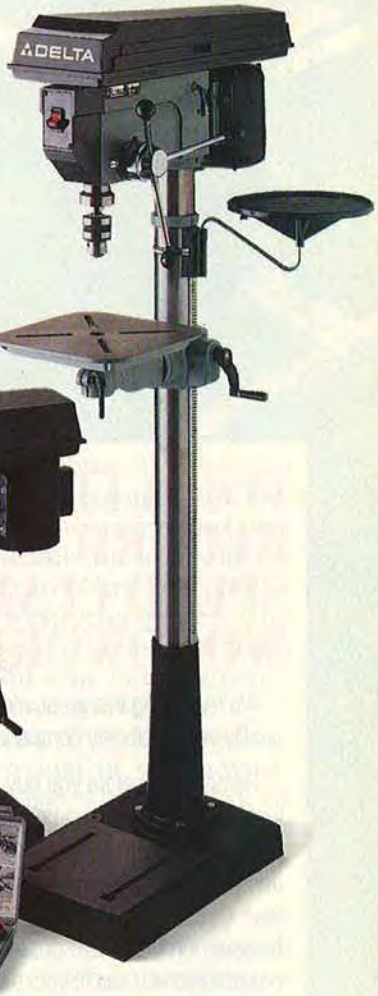
Our 16 ½" Drill Press has 12 speeds, ¾ HP motor and ⅝" capacity chuck. A free accessory utility tray keeps drill bits within easy reach.





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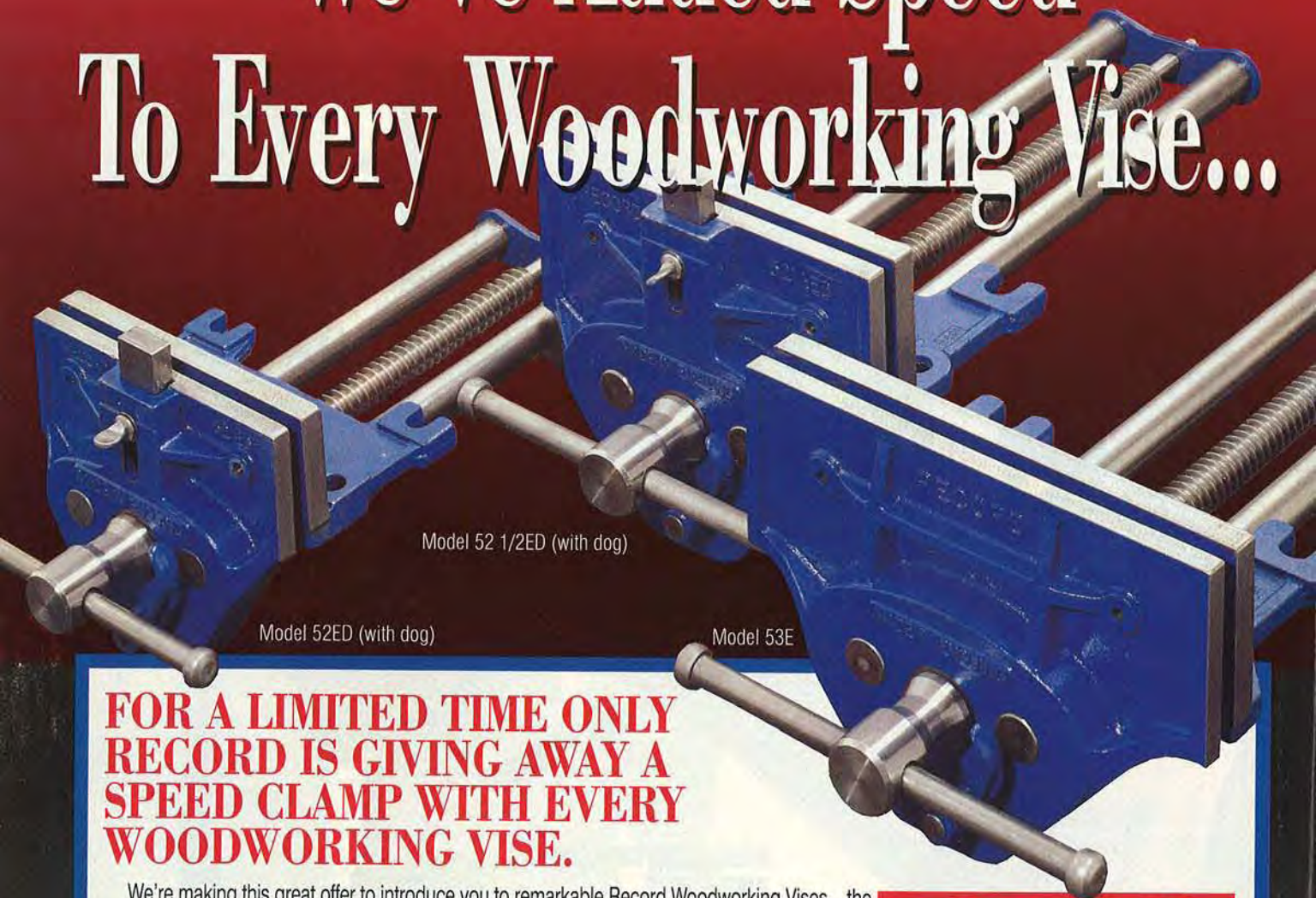
We've Added Speed To Every Woodworking Vise...



Model 52 1/2ED (with dog)

Model 52ED (with dog)

Model 53E

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PRODUCTS THAT PEFORM

A work mat with true grip

Until recently, to hold and cushion workpieces while I routed or sanded them, I used a ½" foam pad that resembled carpet pad without that slick coating on either side. The pad freed me from using bench dogs or hold-down clamps, but had a few drawbacks. First, it and my workpiece slipped if there was any dust on the workbench or pad. And, it took up a lot of valuable storage space.

Now, I'm sold on the MagicMat—a vastly improved, ⅛"-thick pad made of rubber. It has much greater gripping strength and durability than the carpet-pad-type mats, and it rolls up to about the size of the cardboard tube found with gift-wrapping paper. The 36×24" product sells for about $11, so you can economically cover an entire workbench.

In my tests, I experienced no workpiece-to-mat or mat-to-workbench slippage while routing or sanding. When the mat became coated with sawdust, a quick shaking made it clean again. Because this pad is so dense, I can drive nails into a project or pound joints together while working on it. In this application, the pad protects project parts from denting during assembly.

—Tested by Bob McFarlin

MagicMat pad for gripping and cushioning workpieces, $10.99 each plus $3.75 shipping. Free shipping on orders over $25. Quaker State Woodworking Supply, 4434 Kutztown Rd., Reading, PA 19560. Call 800/776-5467.

Continued on page 28

PRODUCTS THAT PERFORM

Continued from page 27

An affordable lathe with dial-operated variable speed

Delta's new Model 46-700 lathe has features I never thought I'd see on a lathe with a suggested retail price of $548 (sale prices may be $100 less). First, you only need to rotate a lever to go from 500 to 2,000 rpm—no belts to wrestle with at all. With the 125-pound machine you can turn stock up to 12″ in diameter and 36″ long over the bed. Its unique pivoting headstock rotates 90° for outboard turning of workpieces up to 16″ in diameter and 4″ thick (see the inset photo at *right*).

After unpacking my test sample, I found the assembly instructions and owner's manual clear and thorough. I had the lathe running in less than 20 minutes. From the start, I appreciated the fact that the machine works with the accessories for my older Delta lathe.

To test the machine, I turned a weed pot and a few rolling pins, and then moved on to a slightly out-of-round bowl blank. Even when I tried, I couldn't get the lathe's ¾-hp motor to bog down.

The variable-speed control operates smoothly and effortlessly, but I noticed a bit of noise from the headstock when I turned the speed to the low-end 500 rpm setting. I would prefer a slightly slower bottom speed, about 300 rpm, for roughing work. But, this limitation can be overcome by bandsawing the workpiece round before turning it.

—Tested by Marlen Kemmet

Delta model 46-700 wood lathe, suggested retail price of $548 at Delta dealers nationwide. For more information, or the location of your nearest dealer, call 800/438-2486 or 412/963-2400.

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Don't be left in the sawdust. Select the model to fit your budget and your needs. Prices start at $300. Call Toll-Free today for brochures and the dealer nearest you, or write to:

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With the right bit and the right speed you can sand, carve, shape and rout wood. Change the bit, adjust the speed and use the Moto-Tool to grind, cut and deburr metal. You can even use it to shape and cut plastic or polish silver.

If we were to list all the ways you could use the Dremel Moto-Tool, this ad would go on forever. However, you can get a 95 page, detailed guide that explains bits, speeds and 175+ uses, in specially marked Moto-Tool boxes at hardware, home center and hobby stores. Or write to Dremel, Dept. W, P.O. Box 1468, Racine, WI 53406-1468, for a free copy.

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19"x48"	$ 7.90 ea.	$11.09 ea.	$11.45 ea.	$12.00 ea.
24"x60"	11.33	16.37	16.94	17.81
25"x60"	11.80	17.05	17.65	18.55
25"x75"	13.56	20.13	20.88	22.00
36"x75"	19.53	28.98	30.06	31.68
37"x60"	17.46	25.23	26.12	27.45
37"x75"	20.07	29.79	30.90	32.56
50"x103"	33.71	51.73	53.79	56.88
52"x75"	28.21	41.86	43.42	45.76

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400A - 180A	$19.00
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A/O CLOTH SHEETS GRIT	50/pk
400J - 100J	$27.50
80J	29.50
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	GRIT	5"	6"
PSA Carat	400B - 100B	$15.45	$20.95
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PLEASE, HELP US HELP YOU
WOOD® MAGAZINE'S 1992 SURVEY

Editing a woodworking magazine isn't easy, even if it's often a lot of fun. That's why we're asking you to spend a few minutes to tell us about your needs and interests. Then, we can publish the kind of magazine you'll want to keep on reading.

To make your job of giving us feedback simple, we have worked up a batch of questions on the front and back of this page. All you need to do is answer them, cut out the page along the dotted line (or photocopy it), and return the completed questionnaire to the following address by December 1, 1992:

1992 EDITOR'S SURVEY
WOOD Magazine
1912 Grand Ave
Des Moines, IA 50309-3379

Thanks so much for your help.
Sincerely,

Larry Clayton

Larry Clayton, Editor

1. How did you obtain this issue of *WOOD* magazine?
11-1☐ Through a subscription (go to question 4)
-2☐ Purchased at store/newsstand
-3☐ Magazine was lent or given to me

2. Have you purchased previous issues of *WOOD* magazine?
12-1☐ Yes (how many?) _____ 12-13 -2☐ No

3. Which of the following factors influenced your decision to buy this issue of *WOOD* magazine? (Check all that apply.)
15☐ Didn't purchase this issue (Go to question 4.)
16☐ New-products banner
17☐ The title of the magazine
18☐ The cover photograph
19☐ Other: _____
20☐ The tool articles
21☐ Gift projects

5. Which of the following environmental subjects would you like to read about in *WOOD* magazine? (Check all that apply.)
48☐ Air pollution
49☐ Recycling
50☐ Our forests/forest products
51☐ Endangered woods
52☐ Safe shops/products
53☐ Saving energy

6. What best describes your reaction to the IDEA SHOP shown in the September 1992 issue of *WOOD* magazine?
54-1☐ I enjoyed the IDEA SHOP and would like to see more on this subject.
-2☐ I enjoyed the IDEA SHOP, but any more on this subject wouldn't interest me.
-3☐ I did not enjoy the IDEA SHOP.

7. In this special issue of *WOOD* magazine, we have devoted 24 pages to new woodworking products and updated information on power tools. Which of the following statements best describes how you feel about this format?
55-1☐ I like having this many pages devoted to the subject in a special issue.
-2☐ I would rather see a smaller number of pages on products be included in this special issue.
-3☐ I am not interested in tool and product information.

8. Are you aware that you can purchase back issues of *WOOD* magazine?
56-1☐ Yes -2☐ No (Go to question 10)

9. How many back issues of *WOOD* have you purchased?
57-1☐ None -2☐ 5–9 -3☐ 20 or more
-4☐ 1–4 -5☐ 10–19

10. If we decided to publish a cumulative index that listed all the articles from Issue no. 1 of *WOOD* magazine to the present, how likely would you be to purchase it at a price of $4.95?
58-1☐ Very likely -2☐ Not at all likely
-3☐ Somewhat likely

Continued on page 32

4. Please indicate how you feel about the mix of articles in *WOOD* magazine:

	Include more (1)	About the same number (2)	Include fewer (3)	Do not include (4)
Small projects 22				
Large projects 23				
Small furniture 24				
Scrollsaw items 25				
Large furniture 26				
Carving 27				
Turning 28				
Toys 29				
TOOLS/TECHNIQUES:				
Finishing 30				
Tool comparisons 31				
Joinery 32				
Machine maintenance 33				
Hand tool use 34				
New products 35				
GENERAL FEATURES:				
Craftsmen closeups 36				
Lumber buying and use 37				
Tree familiarity 38				
Safety 39				
Woodworking education 40				
Business tips 41				
Woodworking history				
Old tools 43				
Woodworking trivia 44				
Woodworking clubs 45				
Readers' shops 46				
Woodworkers' homes/furniture 47				

1992 SURVEY CONTINUES

11. Please indicate your interest in a publication from the editors of *WOOD®* magazine in each of the following subject areas. (Check all that apply.)

59☐ Woodworkers' homes/furnishings/built-ins
60☐ Reader shops
61☐ Jigs and fixtures
62☐ Scrollsaw patterns
63☐ Carving patterns
64☐ Turning projects

12. Does your involvement in woodworking remain the same year round?

65-1☐ Yes (Go to Question 14.) 65-2☐ No

13. If not, during which three months of the year do you do the most woodworking? _____ (66)

14. Are the majority of the projects you build: (Check one.)

67-1☐ Small projects that take only a few hours
-2☐ Large projects (such as furniture)
-3☐ Small items in quantity to sell or give away

15. Please list the last two projects that you built from instructions in *WOOD* magazine. _____ (68)

16. In our tool-buymanship articles, we try to help our readers make informed decisions and recommend specific tools and models. What machines or tools would you like us to review in future issues? _____ (69)

17. Each issue of *WOOD* magazine features about six projects for you to build. Which of the following statements best describes how you feel about the way that these projects are presented?

70☐ I like the way that projects are now presented.
71☐ I would like fewer projects, but with more steps and drawings.
72☐ I would like fewer projects but more design options presented.
73☐ Other _____

18. What's your all-time favorite project(s) from the pages of *WOOD* magazine? _____ (74)

19. Have you built any items shown in our Craft Shop section?

75-1☐ None
-2☐ Yes. List the most recent two. _____

20. Do you do any scrollsaw projects?

76-1☐ Yes -2☐ No

21. If yes, where do get your patterns? (Check those that apply.)

11☐ *WOOD* magazine
12☐ From friends/relatives
13☐ Other: _____
14☐ Other woodworking magazines
15☐ Create my own

22. Which of the following joinery technique/s would discourage you from building a project? (Check those that apply.)

16☐ Biscuit
17☐ Dovetail
18☐ Wedge-pin
19☐ Mortise-and-tenon
20☐ Other: _____
21☐ Box-joint
22☐ Dowel
23☐ Half-lap
24☐ Spline

23. Most issues of *WOOD* magazine contain a 6-page article on how to do a specific woodworking technique. Please name two techniques that you'd like to read about in future issues. _____ (25)

24. Do you own a lathe?

26-1☐ Yes -2☐ No

25. If yes, what type of turning do you do?

27☐ Faceplate (bowls, etc.)
28☐ Between centers (spindles, etc.)
29☐ Other _____

26. If you don't own a lathe, how interested are you in learning how to turn?

30-1☐ Very interested in learning
-2☐ Somewhat interested in learning
-3☐ Not interested in learning
-4☐ Already know how to turn

27. Are you a carver?

31-1☐ Yes -2☐ No (if no, go to question 30)

28. If yes, what type of carving tools do you use?

32-1☐ Hand (knives, gouges)
-2☐ Power (motorized rotary tool)
-3☐ Both

29. What types or forms of carving do you prefer? (Check all that apply.)

33☐ Figures
34☐ Chip
35☐ Other _____
36☐ Wildlife
37☐ Ducks
38☐ Relief
39☐ Sculpture

30. Have you ever tried any carving project(s) presented in *WOOD* magazine?

40-1☐ Yes (which ones?) _____
-2☐ No

31. If you are not a carver, how interested would you be in learning to carve?

41-1☐ Very interested
-2☐ Somewhat interested
-3☐ Not interested

32. Would partially carved wooden blanks that you could order encourage you to carve a project featured in *WOOD* magazine that you otherwise might not attempt?

42-1☐ Yes -2☐ No

33. Do you belong to any of the following?

Carving club	43-1☐ Yes	-2☐ No
Woodturning club	44-1☐ Yes	-2☐ No
Woodworking club	45-1☐ Yes	-2☐ No

34. What other sources besides *WOOD* magazine do you use to learn more about your hobby? (Check all that apply.)

46☐ Other woodworking magazines
47☐ Woodworking books
48☐ Adult-education classes
49☐ Television programs
50☐ Woodworking videos
51☐ Friend/relative
52☐ Craft/specialty shop
53☐ Other _____

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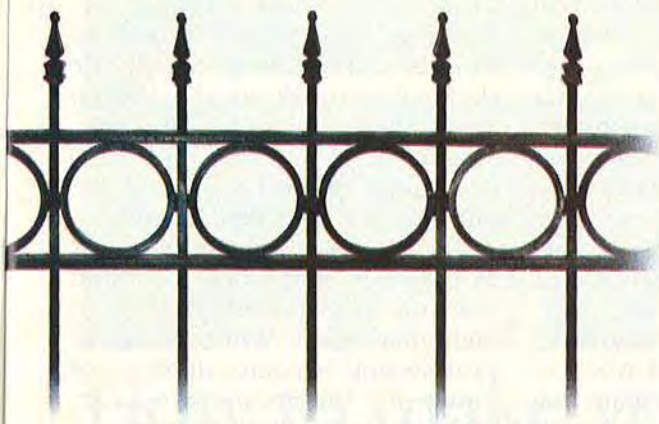

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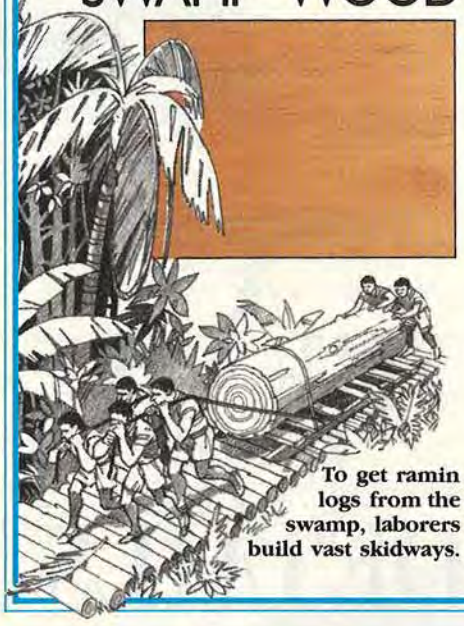
RAMIN
A SHADE-LOVING SWAMP WOOD



To get ramin logs from the swamp, laborers build vast skidways.

The peat can be up to 80′ deep in the forested, fresh-water swamps of Sarawak and neighboring Borneo in Malaysia. So, Caterpillar tractors and heavy trucks—the traditional log-harvesting machines of tropical forests—only bog down in the muck. Yet, from these dense, dark swamps comes one of the most utilitarian woods in the world's timber trade.

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In the swamps, laborers lay down a network of skidways made from the trunks of small trees—a thoroughfare much akin to the roads paved with logs (referred to as "corduroy") used in frontier America. From the air, the skidway network in the swamp looks like the branches of a tree. The trunk of the "tree" is a narrow-gauge railroad that totes the cut logs to the distant sawmill.

Ramin logs, normally about 2′ in diameter, skid along the wood road on sleds pulled by four- to eight-man teams. When an area of peat swamp becomes depleted of ramin, the loggers move on elsewhere to build their skidways.

Because ramin seeds do not readily germinate in an area cleared of trees and their shade, the harvest teams can't come back for a second crop of logs in their lifetime. But years later, more light-tolerant timber trees appear, such as meranti and shorea. They provide the needed shade for a second growth of ramin.

Illustration: Jim Stevenson

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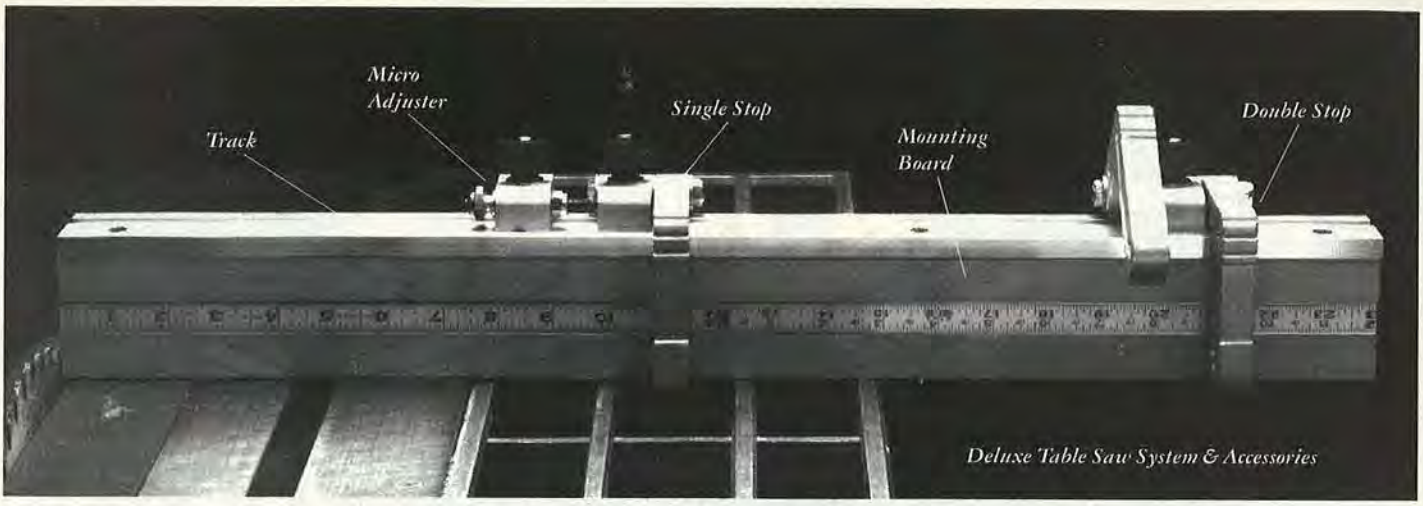

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67K04.01	Basic Table Saw System	$35.95
67K04.02	Deluxe Table Saw System	$71.00

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67K07.01	Radial/Chop Saw System	$46.35

The FastTrack Track

The foundation of the system is the Track, a ⅜″ thick by 1½″ wide precision extrusion with a "T" slot that fits the head of a ¼″ hex-head bolt. These bolts hold all of the accessories and fittings to the Track, which is attached to a mounting board. Any length of Track can be cut to fit, or butted end-to-end.

67K08.01	6″ Track	$ 7.75
67K08.02	12″ Track	$10.30
67K08.03	18″ Track	$13.15
67K08.04	24″ Track	$15.45
67K08.05	36″ Track	$20.60
67K08.06	48″ Track	$25.75

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In the down position, the pivoting Flip Stop acts as a positioning guide, fixing the distance between the end of a board and the saw blade. It flips easily out of the way when not needed. The Double Stop provides two settings 2″ apart.

67K09.01	Single Stop	$20.60
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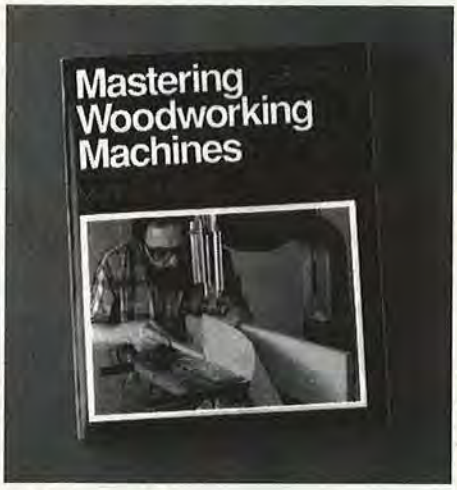

Other Accessories

The Micro Adjuster accessory screws into the side of a Single or Double Flip Stop or Microbase, allowing precise adjustment in .004″ increments. It is recommended for use with either Stop.

The Mitre Mount (includes a 12″ section of Track and a short piece of die board) lets you slide the Mounting Board freely left or right on the mitre guide. We recommend installing one with every FastTrack Table Saw setup.

The right-to-left reading 48″ Rule is marked in 1/16″. It fits into a dovetail-shaped flat extrusion which is set into a 14° dovetail dado you cut in your mounting board. The Deluxe Table Saw System already has the Rule set into it.

Suggested accessories for the Table Saw System are the Micro Adjuster, additional Track, Double and extra Single Stops, a 48″ Rule, and Mitre Mount. For the Radial Arm Saw, you can use a second 48″ Track, a Micro Adjuster, a Double or an additional Single Stop, and the 48″ Rule.

67K10.03	Micro Adjuster	$12.35
67K10.04	Mitre Mount	$19.30
67K10.05	48″ Rule	$19.25

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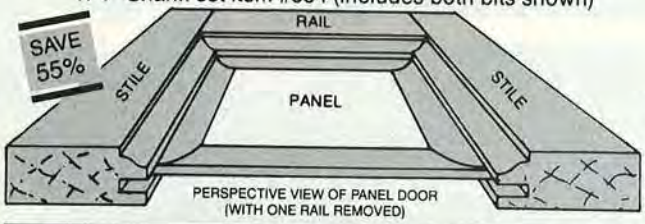

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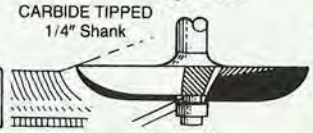

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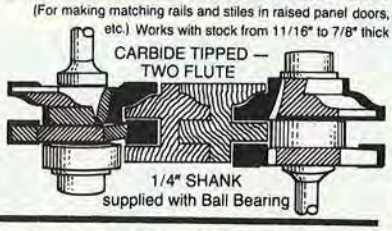

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#903		1/4" Spiral Cutter		1/4"	3/4"	1/2" *	$12.00
#904		3/8" Spiral Cutter		3/8"	1"	1/2" *	$24.00
#905		1/2" Spiral Cutter		1/2"	1 1/2"	1/2"	$29.00
#530		3/16" Edge Beading	3/16" Dia. of Circle		1/2"	1/4"	$15.00
#531		5/16" Edge Beading	5/16" Dia. of Circle		1/2"	1/4"	$15.50
#350		1/8" Round Over	1/8" R	3/4"	3/8"	1/4"	$11.00
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#209		3/8" Round Over	3/8" R	1 1/4"	5/8"	1/4"	$15.00
#355		1/2" Round Over	1/2" R	1 1/2"	3/4"	1/4"	$17.00
#655		1/2" Round Over	1/2" R	1 1/2"	3/4"	1/2"	$17.00
#656		3/4" Round Over	3/4" R	2"	7/8"	1/2"	$21.00
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#206		3/8" Cove	3/8" R	1 1/4"	9/16"	1/4"	$13.00
#207		1/2" Cove	1/2" R	1 1/2"	5/8"	1/4"	$14.00
#643		1/2" Cove	1/2" R	1 1/2"	5/8"	1/2"	$15.00
#208		3/4" Cove	3/4" R	1 7/8"	3/4"	1/2"	$26.00
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#232		1/4" Roman Ogee	1/4" R	1 1/2"	3/4"	1/4"	$17.00
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#368		1/4" Slot Cutter	3/8" Deep	1 1/4"	1/4"	1/4"	$14.00
#204		3/8" Rabbeting	3/8" Deep	1 1/4"	1/2"	1/4"	$13.00
#670		3/8" Rabbeting	3/8" Deep	1 1/4"	1/2"	1/2"	$14.00

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#212		1/2" Core Box	round nose	1/2"	11/32"	1/4"	$13.00
#418		3/4" Core Box	round nose	3/4"	5/8"	1/4"	$15.00
#213		1" Core Box	round nose	1"	3/4"	1/2"	$17.00
#548		Lockmitre		2"	7/8"	1/4"	$32.00
#214		1/4" Straight	plunge cutting	1/4"	3/4"	1/4"	$ 6.50
#216		3/8" Straight	plunge cutting	3/8"	1"	1/4"	$ 6.50
#474		1/2" Straight	plunge cutting	1/2"	1"	1/4"	$ 7.00
#219		3/4" Straight	plunge cutting	3/4"	1"	1/4"	$ 9.50
#779		3/4" Straight	plunge cutting	3/4"	1 1/2"	1/2"	$10.00
#462		1/2" Bull Nose	1/2" Dia. of Circle		3/4"	1/4"	$16.00
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#450		1/8" Beading	1/8" R	3/4"	3/8"	1/4"	$11.00
#233		1/4" Beading	1/4" R	1"	1/2"	1/4"	$13.00
#454		3/8" Beading	3/8" R	1 1/4"	5/8"	1/4"	$15.50
#455		1/2" Beading	1/2" R	1 1/2"	3/4"	1/4"	$17.00
#500		3/8" Flush	Trimming	3/8"	1/2"	1/4"	$ 7.00
#501		3/8" Flush	Trimming	3/8"	1"	1/4"	$ 7.50
#503		1/2" Flush	Trimming	1/2"	1"	1/4"	$ 8.50
#221		1/2" Flush	Trimming	1/2"	1 3/16"	1/2"	$ 8.00
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CARVED INTARSIA
ONE BATCH AT A TIME

In a tiny cottage workshop perched on a picturesque pine-fringed lake, Ellen Harrington applies woodworking skills and marketing savvy to make it on the crafts' circuit.

After graduating from college, Ellen Harrington launched a marketing career as a sales representative for a pharmaceutical company. It lasted 13 years.

From her home base in Syracuse, New York, Ellen made her rounds and commissions. But as the years clipped by, it wasn't the office she looked forward to seeing daily—it was her shop.

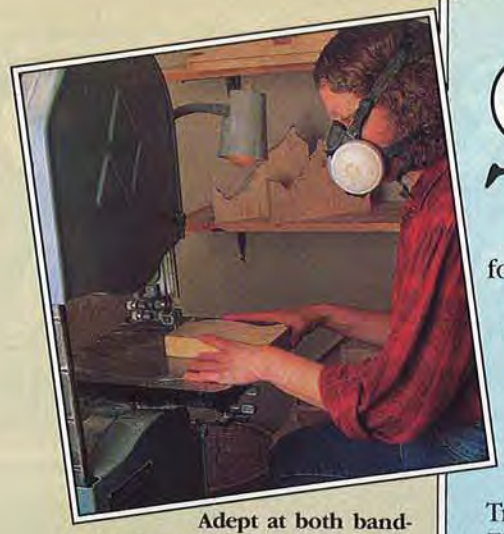
"Each year since graduation, I had made an annual gift for some special relatives," says Ellen, 38. "One year I decided to make them a wooden welcome sign. I bought a jigsaw, an electric drill with a sanding attachment, and some paint. That's when I discovered how much I loved working wood."

It was a Maine vacation that kicked off her career change. "I fell in love with the Portland area," says Ellen. "Three years later, I transferred."

Soon, evenings found Ellen bandsawing and painting simple wooden figures to sell at arts and crafts fairs. "After about a year and a half I decided that I liked crafting better than selling," says Ellen. "So, I bought my house here on the lake and then quit my job."

Continued

CARVED INTARSIA



Adept at both bandsawing and scrollsawing, Ellen does all the cutting for her line of items in her tiny shop.

The address has a wonderfully rural ring to it: "Old Fishing Pond Road, Sanford, Maine." And, you think, the place itself must be as charming as a Currier and Ives print—a winding lane through fir and birch trees, shimmering water on the pond, a white-shuttered cottage, a roaring fireplace, and a cozy little workshop. Truly a woodworker's dream. For Ellen Harrington it is.

Woodworking at lakeside

Ellen's woodworking shop almost could fit inside a big-city elevator. But, according to her, when you're working small, a full line of stationary power tools isn't necessary.

"When I started my woodcrafting business [which she now calls "Keepsakes"], I had a light-duty Sears bandsaw, the kind most hobbyists use," comments Ellen. "Now, I've replaced that with a commercial-duty Delta bandsaw, added a Hegner scrollsaw, and use two Fordham flexible shaft, power-carving tools. You see, as production increased and the intarsia patterns got more complicated, I had to get more heavy-duty machines. I can't afford breakdowns."

Laurie takes a break from the power-carving sawdust to add details to some figures with acrylic paints.

Laurie Dunn, Ellen's friend and partner of the last few years, describes their work as figures and scenes made up of separate pieces glued together, like a jigsaw puzzle. Before joining, however, each piece receives carved details and a coat of stain. In other words, carved intarsia.

"Laurie does all the carving, and helps with the designs. She also paints some details," says Ellen. "I cut out the wood, glue up the pieces, and do some painting." Others occasionally help out with the staining and painting. But it's up to Ellen to set up shop at arts and crafts fairs all along the East Coast—more than 40 in 1991—to sell their wares.

When the stain on a batch of pieces has dried, Ellen assembles the designs with slow-set epoxy.

During the last couple of years, Ellen and Laurie have developed over 70 patterns for figures, plaques, wildlife, fantasy, folk art, and Christmas scenes. Some have as many as 26 pieces. And Ellen delights in their creation.

"Ninety percent of our work is made from ¾" northern white pine that I buy as seconds [cutoffs] from a local sawmill," she says. "And for some designs—the naturally finished pieces—the grain becomes really important because it's part of the design.

"For every figure, every pattern, I'm looking for the right wood," she continues. "I've got pieces set aside to use for the sun, the moon, waves, and lots of things."

After Ellen selects the wood, the design begins to become reality. "I take the pattern and trace it right on the wood with tracing paper," she explains. "Then, it's either to the bandsaw or the scrollsaw for sawing out. Almost all of our figures have squiggly cuts, and require the scrollsaw. But if the pattern has long cuts and wide curves, I do it on the bandsaw with an ⅛" blade."

Working in batches of six, Ellen cuts out the pieces for each pattern, lays them all on a tray, and then moves the pieces to the belt sander to round their edges. From there, Laurie adds the carving.

"I use abrasive sleeves on the Fordham," says Laurie. "To get different details, such as deep and narrow slits, I angle the tool and use the edge of the abrasive band. The flat surface, held at a slight

angle, gives me wide scoops. For deep cuts, I go with 60- or 80-grit sleeves. For lighter ones, 120-grit."

Batching for bucks

Perhaps reflecting her ingrained sales experience, Ellen long ago decided that all work produced be assigned a retail dollar value to assist in accounting for production time. "Each batch of six or so trays has a retail value of about $500," she explains. "For instance, six herons, six cardinals, six chickadees, six goldfinches, and six parrots equal that total. I keep a record of the number of batches we do every day of the week," Ellen says.

"And we stain in batches, too. I will do chickadees and herons together because they use the same colors. And Christmas stuff with lots of red and greens—those patterns would fall into a batch."

There's one problem with batch work, though—especially with intarsia—and it sometimes causes grief. "You don't dare mix up the pieces," says Laurie. "Because Ellen saws out each figure or scene individually, no two of the same pattern are exactly alike, and the pieces aren't interchangeable."

That means that from the saw to carving, to staining, to assembly, the pieces that make up a design must huddle together in their designated spot on the tray. No shifting. No sorting. And keep the hands steady. Laurie adds: "If you drop a tray, you're done!"

After staining with rainbow-colored oil stains, Ellen allows the pieces to dry for 24 hours. Then, she assembles them with slow-set epoxy. Finally, she and Laurie add details such as eyes, belts, and buttons with acrylic paints. Now, the batches of little figures and scenes receive a spray coat of matte finish sealer, just enough to protect the wood without a shine.

As the trays of pieces reach completion, Ellen surveys her and Laurie's work. She nods, satisfied. "At the shows, we get a feeling for what people like," she says confidently. "But, that doesn't mean we always make the designs people want. We don't do anything we don't like. I won't do a cow, for instance, no matter how many times people ask for one." She laughs. "For some reason, I just don't like cows."

KEEPSAKES BY MAIL

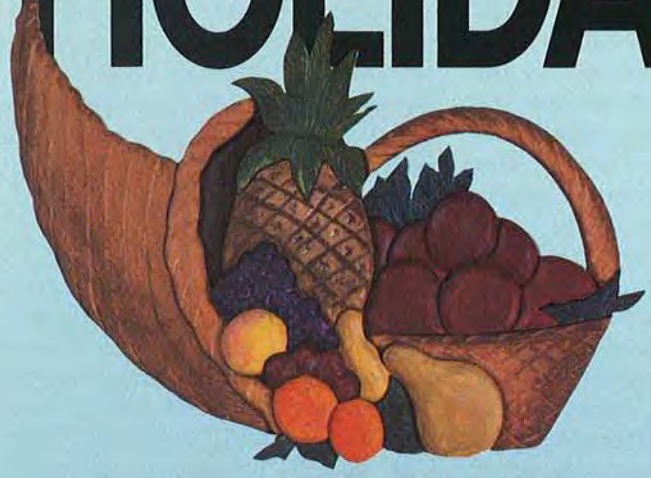
For a catalog of Ellen and Laurie's patterns, send $2 to: *Keepsakes, 4 Old Fishing Pond Road, Sanford, ME 04073.* To make your own keepsake, turn to *page 40* for an intarsia project designed by Ellen and Laurie. We think it's just perfect for a Thanksgiving decoration.

Written by Peter J. Stephano
Photographs: Steve Uzzell

HOLIDAY HORN

CARVE AND PAINT

Print this article



Before you slice into your Thanksgiving turkey this year, practice up by sinking your carving tools into this traditional symbol of Nature's bounty. Designed by Maine artist Ellen Harrington, this festive design lets you try your hand at carved intarsia.

1 Copy the pattern at right. Using carbon paper, transfer the outline onto a ¾×9¼×13" piece of pine.

2 With a ⅛" bandsaw blade or a No. 5 scrollsaw blade, cut out the pieces following the heavy black lines. Place the parts on a flat surface as you cut them out.

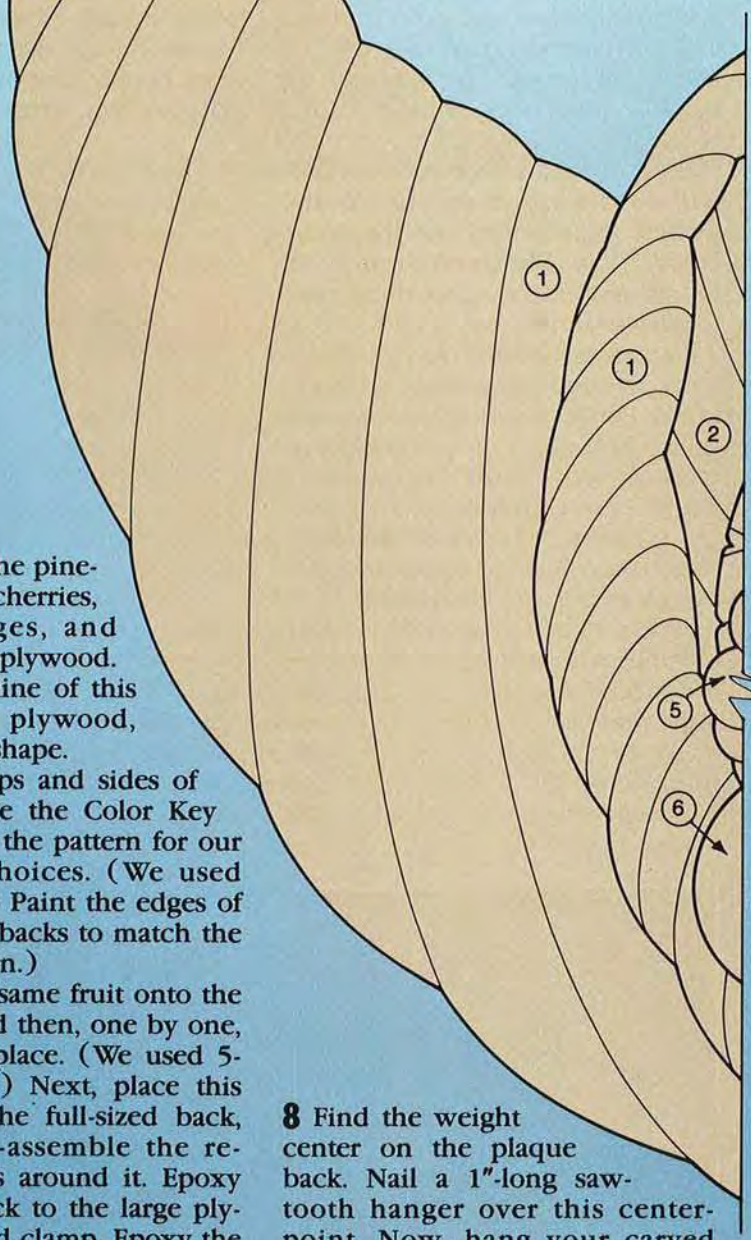
3 To make the back, trace the pattern outline onto ¼"-thick plywood. So it won't show, scribe a line about ⅛" inside and parallel to the outline. Now, saw along the line you just scribed.

4 Round over the top edges on each piece. (We used a Dremel Moto-Tool equipped with a fine-grit sanding drum, but you may use a carving knife.) Next, sand down the neck of the pears and the pineapple leaf ends to give them distinct shape. Carve the grooves in the horn, basket, pineapple, grapes, and the leaves to give them texture and depth. Carve dimples in the face of the two oranges. (We formed these grooves with the edge of a spinning sanding drum, but you may use a small gouge, V-tool, or a pointed, high-speed cutter in a rotary-carving tool.)

5 To add dimension to the fruit, make a second, elevated back. Dry-assemble the pineapple, grapes, cherries, peach, oranges, and pears on ¼" plywood. Scribe the outline of this group on the plywood, and saw it to shape.

6 Paint the tops and sides of each piece. See the Color Key accompanying the pattern for our paint color choices. (We used acrylic paints.) Paint the edges of both plywood backs to match the basket and horn.)

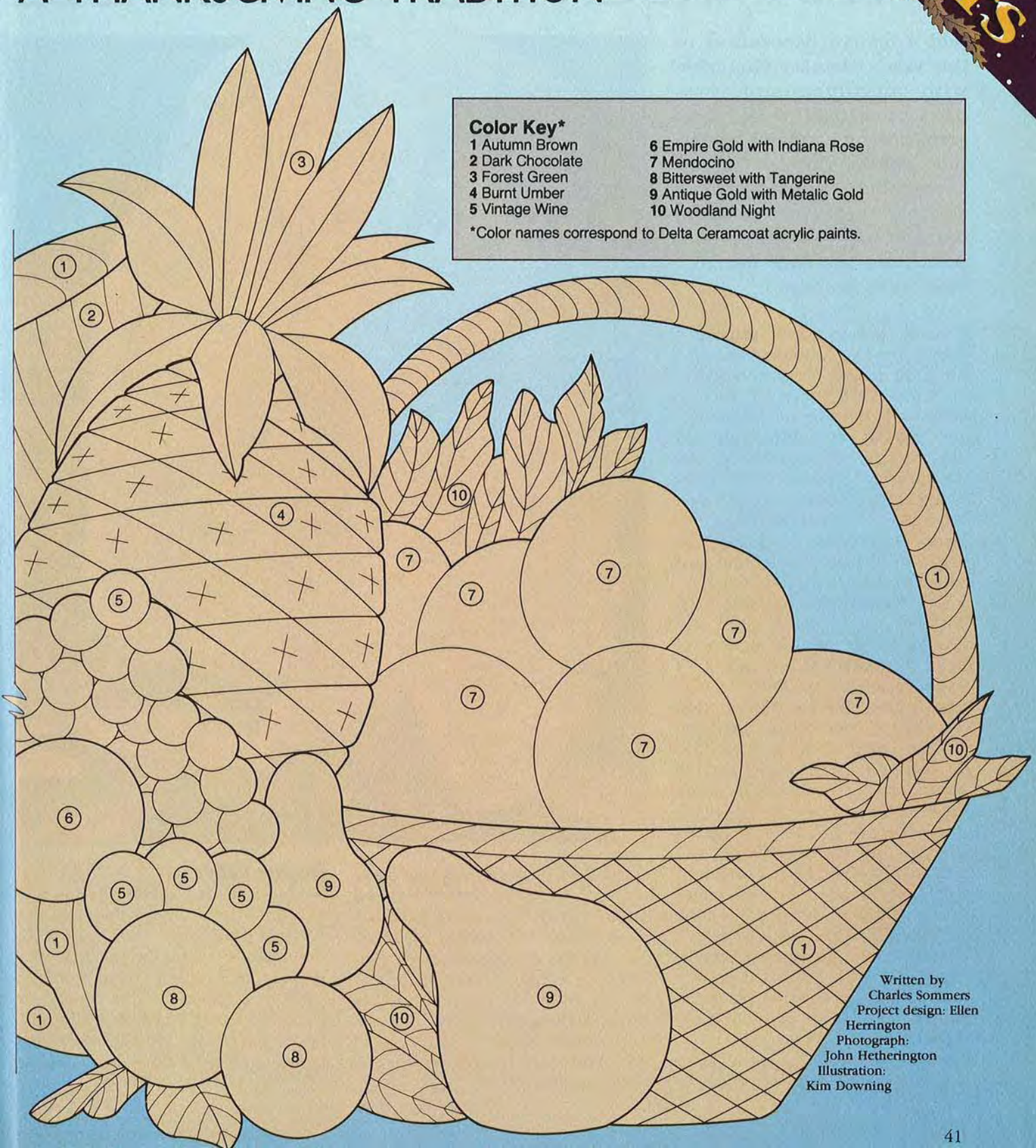
7 Position the same fruit onto the back again, and then, one by one, glue them in place. (We used 5-minute epoxy.) Next, place this assembly on the full-sized back, and then dry-assemble the remaining pieces around it. Epoxy the second back to the large plywood back, and clamp. Epoxy the remaining parts to the back.



8 Find the weight center on the plaque back. Nail a 1"-long sawtooth hanger over this centerpoint. Now, hang your carved intarsia for all to enjoy.

OF PLENTY

A THANKSGIVING TRADITION

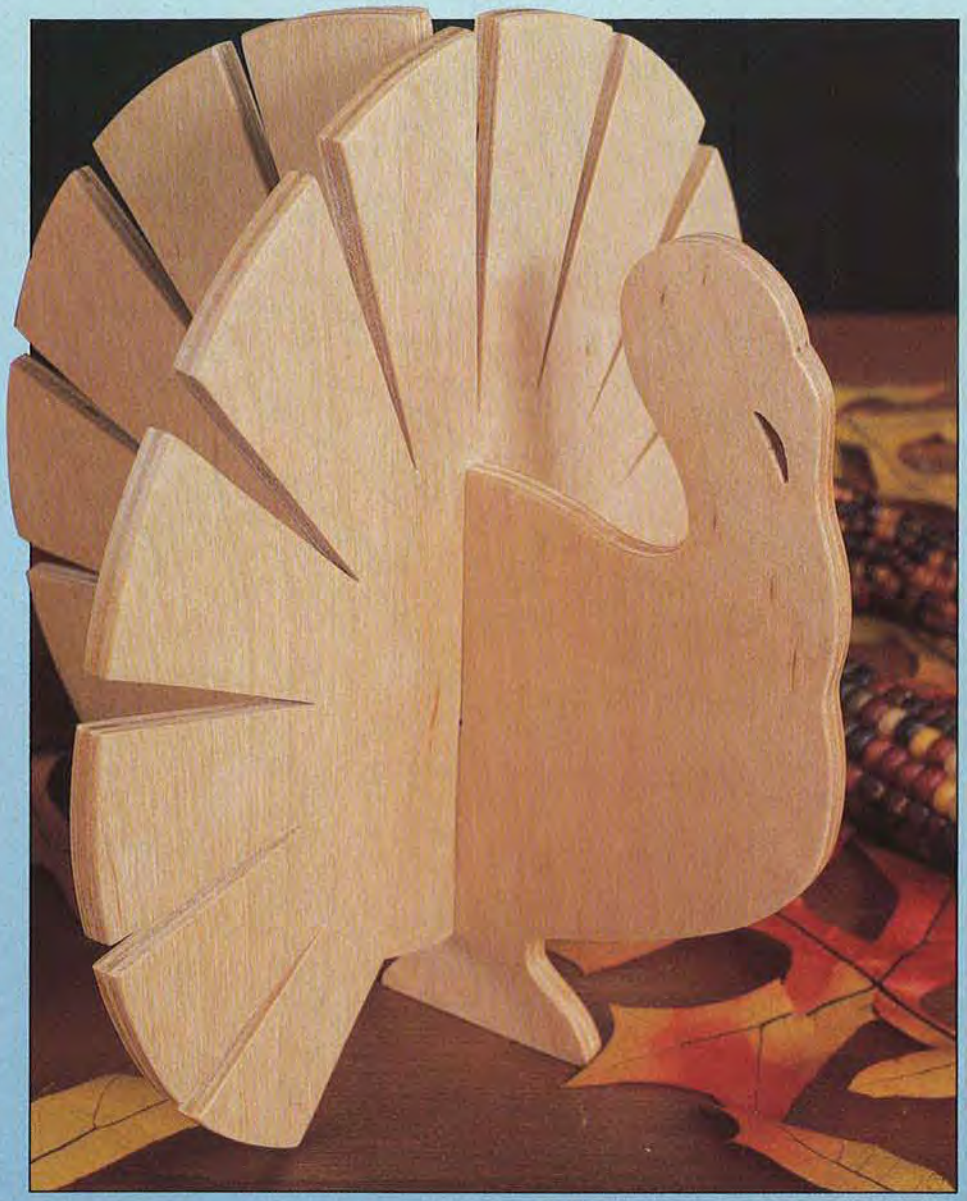


Written by Charles Sommers
Project design: Ellen Herrington
Photograph: John Hetherington
Illustration: Kim Downing

TABLETOP

A THANKSGIVING CENTERPIECE

Add a festive decoration to this year's Thanksgiving table with our supersimple two-part cutout. Using your scrollsaw or bandsaw, you're just minutes away from a completed project, leaving you plenty of time to carve the real turkey (and maybe do a little nibbling just to make sure it's done).



1 Using carbon paper, transfer paper, or two photocopies of the pattern and spray adhesive (we used 3M Super 77 spray adhesive), transfer the two turkey patterns (the entire body and the tail fan) to posterboard. Cut the patterns to shape to form the two templates. (Since we planned on making several turkeys, we made posterboard templates; for just one turkey, transfer the two patterns directly to your wood.)

2 Use the templates to transfer the patterns to ¼" stock. (See the Buying Guide for our source of void-free birch plywood.) To form the tail fan on the ¼" stock, trace around the half-pattern, flop the pattern over, align, and trace the other half of the pattern onto the plywood. See the Exploded View drawing for the shape of the finished tail fan.

3 Cut the tail fan and body pieces to shape (we used a scrollsaw and a #7 blade—.043×.016"—with 12 teeth per inch). You also could use a bandsaw equipped with a ⅛" blade for the outline and a coping saw for the hole in front of the neck. (We found it easiest to cut the arcs of the two pieces to shape, and then cut each V-shaped indentation.)

When cutting the notches in the two parts, *remember that the notch width needs to be the same as the thickness of the stock you're using.* (Since we used ¼" material for our project, we show ¼" notches on our full-sized patterns; adjust if necessary.)

4 Fill any voids along the edges with wood putty. Sand the faces and edges of both pieces with 150- and then 220-grit sandpaper. Apply a clear finish.

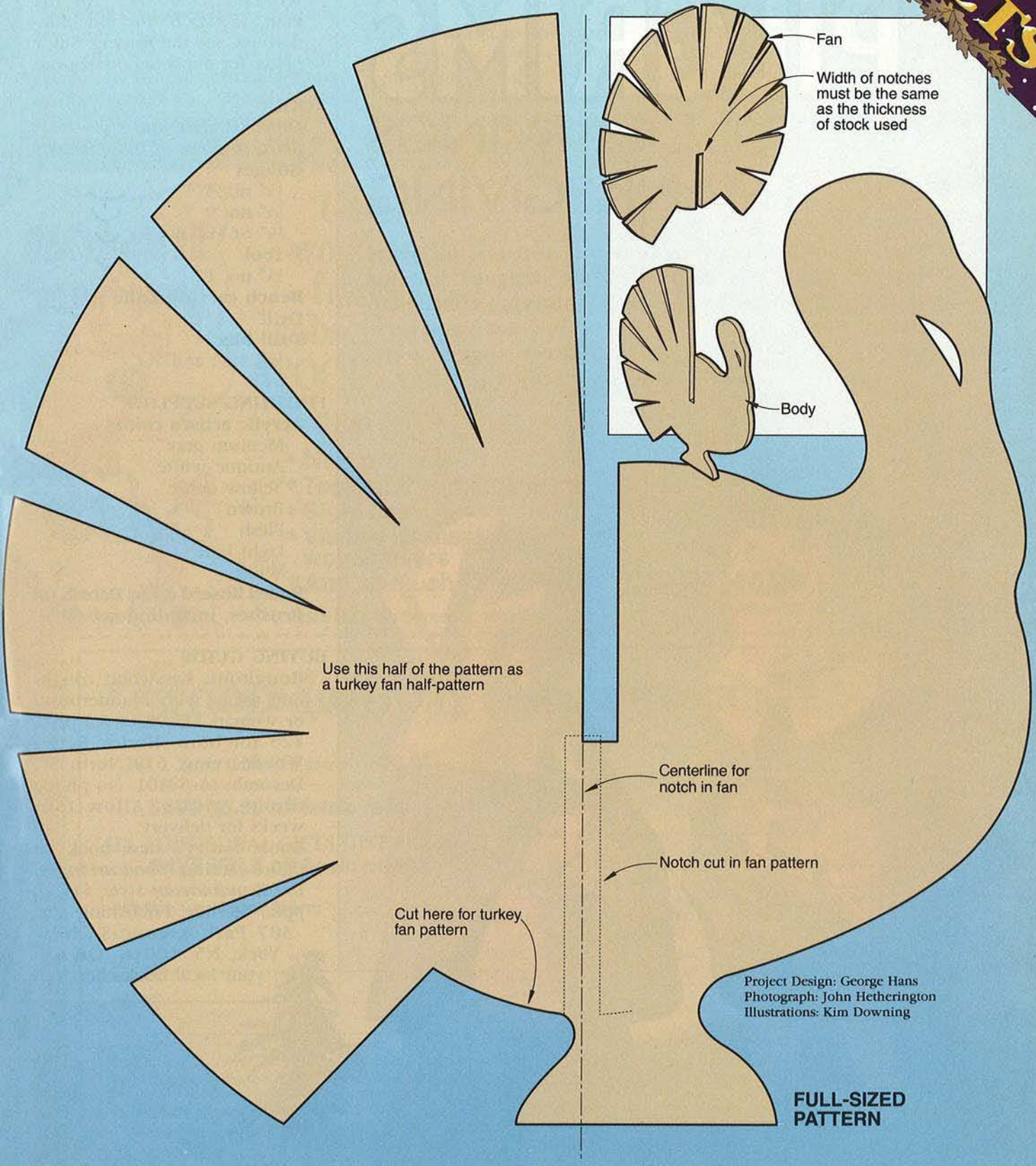
Buying Guide

• **Void-free ¼" birch plywood.** ¼×9×9", stock no. W1192T, $7.95 ppd. for two pieces (enough for one turkey), four pieces (two turkeys) for $14.95 ppd., or ten pieces (five turkeys) for $39.95 ppd. Heritage Building Specialties, 205 North Cascade, Fergus Falls, MN 56537. Call 800/524-4184 to order.

Print this article

TOM

FESTIVAL of PROJECTS


Fan
Width of notches must be the same as the thickness of stock used
Body
Use this half of the pattern as a turkey fan half-pattern
Centerline for notch in fan
Notch cut in fan pattern
Cut here for turkey fan pattern

Project Design: George Hans
Photograph: John Hetherington
Illustrations: Kim Downing

FULL-SIZED PATTERN

GRATEFUL PILGRIMS

TWO FUN CARVINGS FOR THANKSGIVING

Grace your Thanksgiving table this year and for years to come with this Pilgrim couple designed just for *WOOD*® magazine readers by our carving consultant, Harley Refsal. Harley's strong, simple, flat-plane carving style suits these rugged new-world settlers perfectly.

Print this article

TOOLS AND SUPPLIES

STOCK

Basswood or other carving wood, 3×3×6½" for the woman, 3×3×7½" for the man, ½×2×5" for the blunderbuss. See the Buying Guide *below* for our roughout source.

TOOLS

Different sizes and styles may work in place of those listed.

Gouges

½" no. 3
½" no. 9
⅛" or 3⁄16" no. 9

V-Tool

⅛" no. 12

Bench carving knife
Drill
Drill bits

⅛", 3⁄16", and 5⁄16"

FINISHING SUPPLIES

Acrylic artist's colors

Medium gray
Antique white
Yellow ochre
Brown
Flesh
Light blue
White

Boiled linseed oil or Danish oil
Brushes, including no. 0000

BUYING GUIDE

Roughout. Basswood roughout, man (with blunderbuss) or woman $12.95 (U.S.) ppd., $25 for both. Harley Refsal Woodcarving, 619 North St., Decorah, IA 52101. No phone orders, please. Allow four weeks for delivery.

Book. Harley's new book on figure carving, *Woodcarving in the Scandinavian Style*, $15.45 ppd., Sterling Publishing Co., 387 Park Avenue S., New York, NY 10016. Or, see your local bookseller.

Trace the front and side patterns for the man onto adjacent sides of a carving block 3×3×7½" and the woman onto one 3×3×6½". Trace the blunderbuss onto ½×2×5" stock. (Patterns on *pages 46–47.*) Bandsaw the blanks.

Before you start carving the man, draw his right arm and hand on the blank with a pencil. Then, refer to the Foot Position drawing, and draw the bottoms of his feet on the bottom of the blank.

Start at the bottom

Start carving his shoes, stockings, and breeches with your knife or a no. 3 gouge. Because bold, flat planes give this style of carving its character, don't smooth or round the surfaces.

As you carve the shoes, leave enough stock for the large buckles. Make the shoes about ¾" thick at the toes. You want them to look too big; this is a caricature, and exaggerated features make it work.

Carve the lower legs, covered by tight-fitting stockings, to an oval cross-section. Note, too, the curve of the back of his calves—*don't* carve the legs as cylinders.

Carve a distinct separation where the Pilgrim's baggy breeches puff out from the tops of his stockings. Then, cut an inverted V (about ½" wide at the bottom) for the crotch. Add some wrinkles and define the seat of his breeches as you surface the lower body to remove saw marks.

Rough out the right hand and arm, leaving the hand about 1" wide. Cut away wood to define the left arm. Then, remove excess material from the front of the Pilgrim's body, leaving enough to make the bottom edge of his blouse, the belt, and buckle.

Drill a hole for the gun

Now, drill a hole through the right hand for the blunderbuss. Eyeball an angle to set the gunstock next to the Pilgrim's right foot, and then drill a ⅛" pilot hole. Enlarge the hole to 3/16" and then 5/16", drilling carefully to avoid tearing out the soft wood.

After drilling, shape the hand. Carve the general planes first, leaving the hand disproportionately large. Establish a mitten shape with the thumb on the top side nearest the body. Then, with a V-tool or knife, carve grooves to separate the fingers.

Now, round the brim of the pilgrim's hat with your knife. Pay attention to the changing grain direction so you won't chip out the thin brim.

Round the back corners of the Pilgrim's head. Then, surface the underside of the hat brim with a shallow (no. 3) gouge or knife.

Give the Pilgrim a face

Pencil in a vertical hairline between the hat brim and collar on each side, about halfway between the front and back of the head. Narrow the head about ⅛" in front of each line, making the hair distinctly visible from head-on.

Cut away the front corners of the head, roughly forming a point centering on the tip of the nose. Narrow the chin end to about ⅜".

Pencil in a broad triangle below the nose for the smile lines and mouth. Make narrow V-cuts with your knife for the smile lines. A slightly curved V-cut about ¾" long forms the mouth.

Round the nose, keeping it relatively large. With the no. 9 gouge, hollow out the eye locations. Round the cheeks, and make a small, horizontal V-cut at the outside corner of each eye.

Buckle down to some details

Texture the hair with the small V-tool. Then, round the hat crown (allow extra width at the base for the band and buckle), and slope the top surface of the brim down toward the edge, where it should be about 3/16" thick.

Now, draw pencil guidelines for the collar, belt, hatband, and buckles. Carve around the collar so it will be about ⅛" above the surface. The belt, hatband, and buckles should be 1/16" higher than the surface. Carve the blunderbuss and place it in the Pilgrim's hand according to the instructions with the pattern.

The Pilgrim's wife

Draw an oval on the bottom of the blank for the woman. Then, pencil in the basket on front.

Carve the skirt to the oval guideline with your knife or no. 3

Continued

GRATEFUL PILGRIMS

gouge. Rough in the basket, leaving adequate stock above it to carve the woman's hands. Her hands and the cloth cover extend about ⅛" past the basket front.

Model her cape with large planes. Make the edge about ⅜" thick where the cape hangs over the skirt, and bevel the back slightly. Flute the skirt randomly with a ½" no. 8 or 9 gouge.

Both hands hold the basket

The woman holds the basket handle with her left hand, and her right hand clasps the left. Model her hand positions with your own hands to visualize the way the fingers of the right hand curve over the left wrist and hand.

Shape the basket, and then detail the woven front and sides with a small V-tool. Cut away the cape around her shoulders and back to allow the collar to stand about 3/16" above the cape.

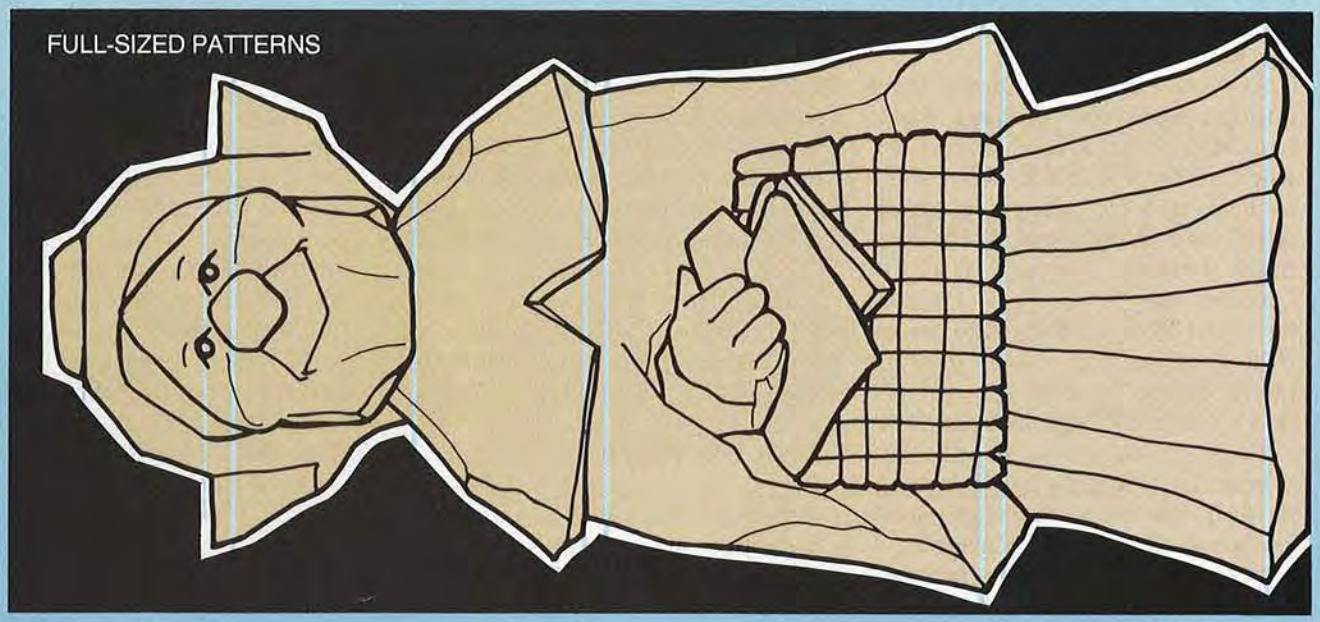
Shape the woman's cap, separating the front band and the back of the cap. Bring the back and sides down to meet her collar. Show her hair pulled back on each side of her forehead.

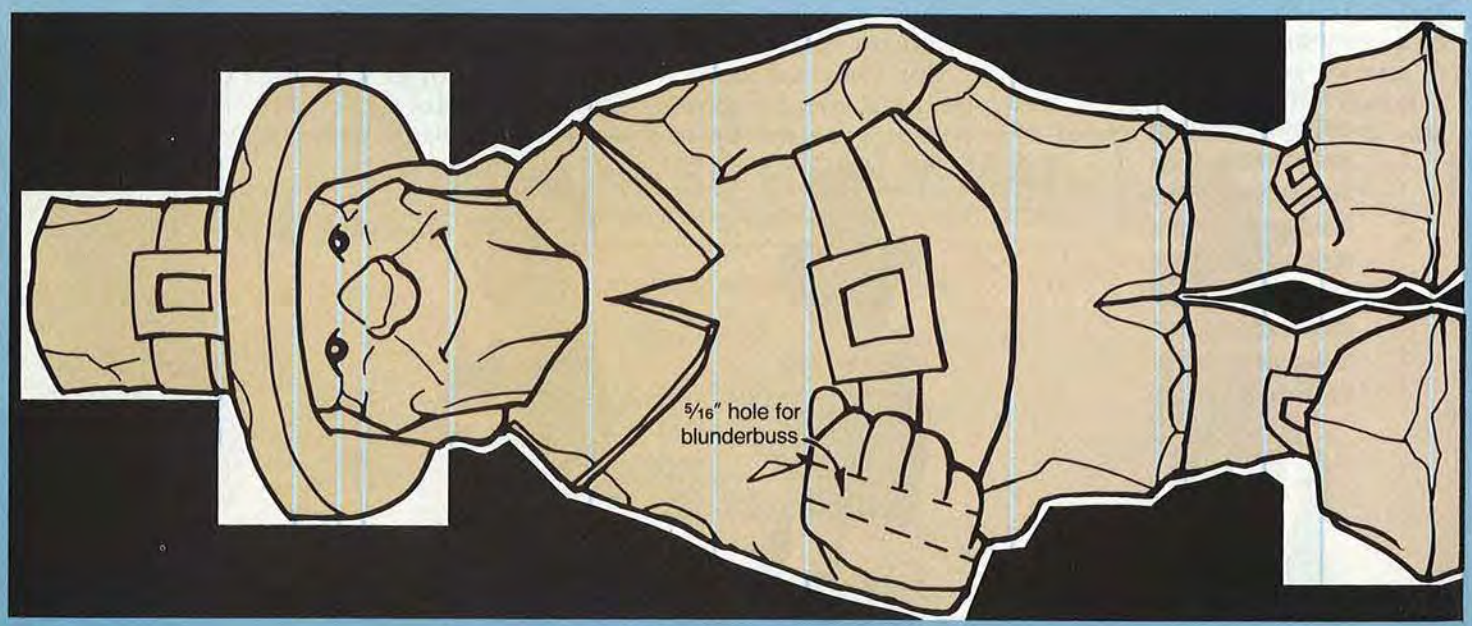
Carve the woman's face as you did the man's. Then, soften the angles and create smaller planes for a more feminine look.

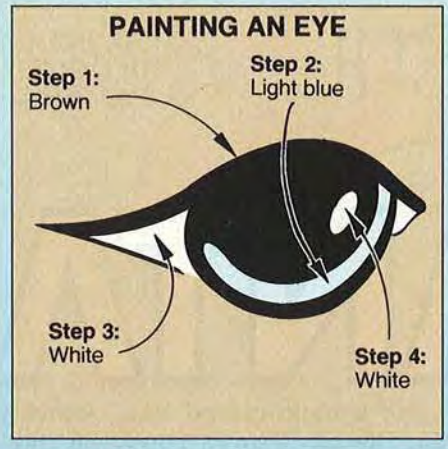
Painting the Pilgrims

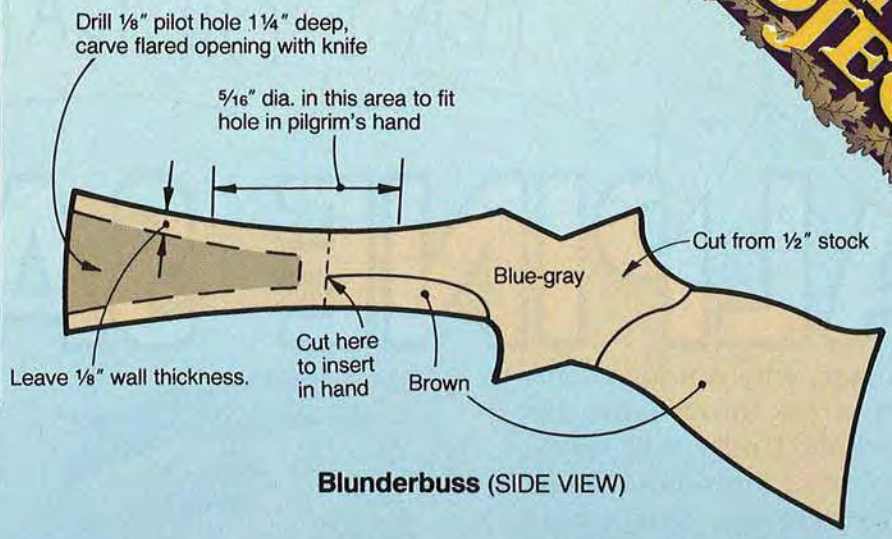
Sand the Pilgrims lightly. Paint them with acrylic artist's colors thinned to a watery wash—the muted colors suit the Pilgrims well, and the wood grain shows through for an aged look. Refer to the eye illustration on the *opposite page* as you paint the faces.

Let the paint dry, and then carve your initials and the date into the bottom of each figure. Coat the figures with boiled linseed oil or Danish oil finish. To antique them, add a bit of walnut stain to the oil. (Test your mixture on scrapwood first to make sure it isn't too dark.)





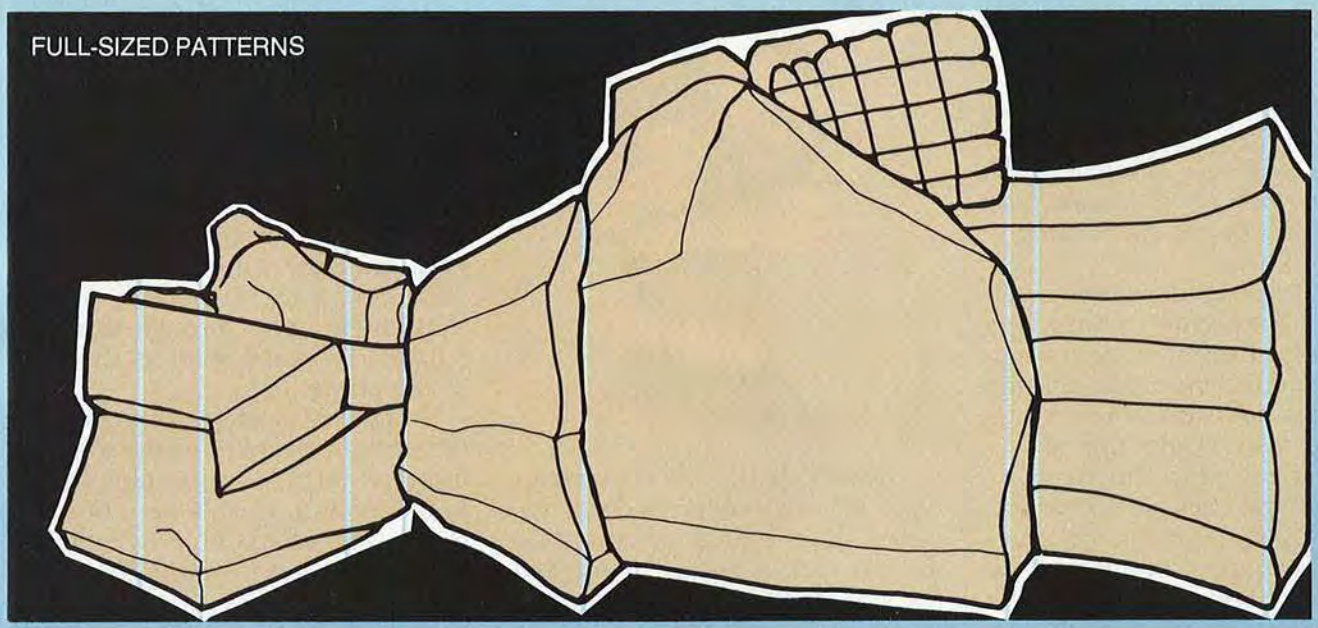


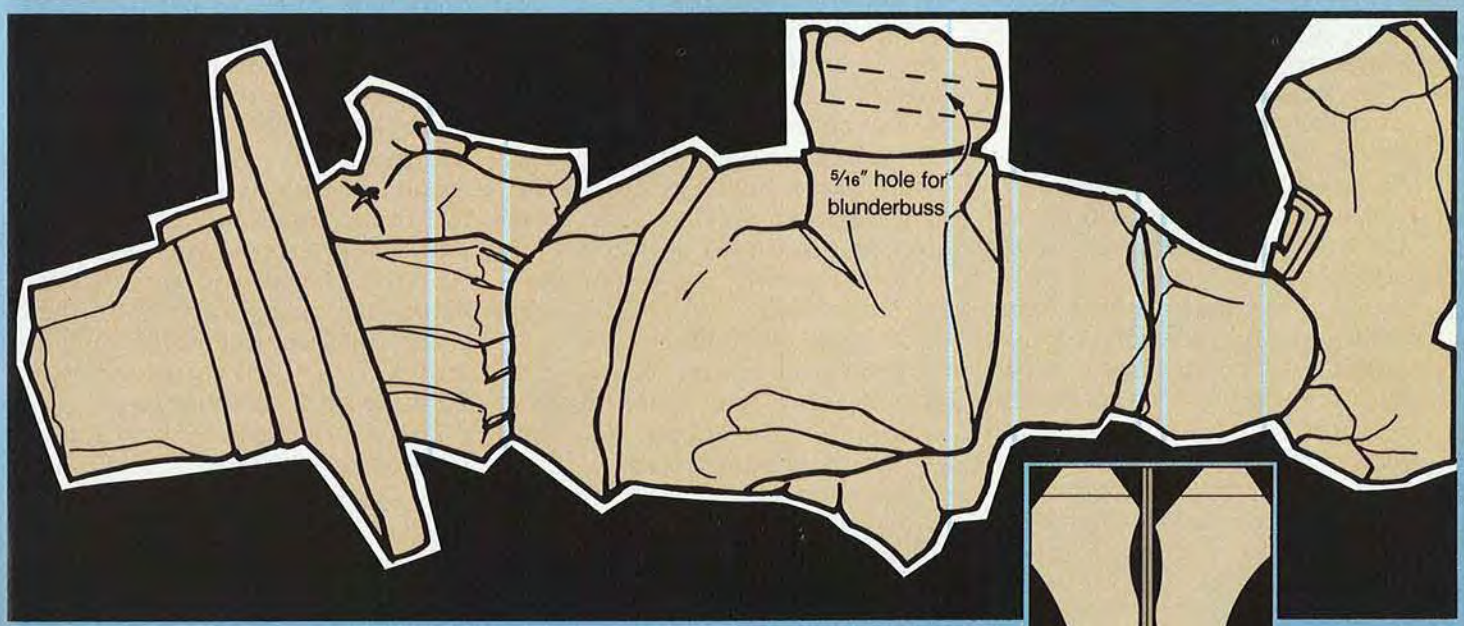

Drill 1/8" pilot hole 1 1/4" deep, carve flared opening with knife
5/16" dia. in this area to fit hole in pilgrim's hand
Cut from 1/2" stock
Blue-gray
Cut here to insert in hand
Brown
Leave 1/8" wall thickness.

Blunderbuss (SIDE VIEW)

Written by Larry Johnston
Project Design: Harley Refsal
Illustrations: Mike Henry
Photographs: John Hetherington

FULL-SIZED PATTERNS





FOOT POSITION

BANNER FULL-SIZED PATTERN

ALPINE SANTA

This year, why not turn some wood scraps into a Santa that the whole family will enjoy. With bits of household twine, a fabric scrap, and a twig from your backyard, Santa's set for the slopes.

Note: You'll need an 8×15" piece of ¾" pine for Santa's body, arms, back leg, and skis. Plane or resaw ¾"-thick stock to ⅜" for the banner and ⅛" for the doll's arms.

Copy the full-sized patterns with tracing paper. Now, photocopy the pattern. Turn over the tracing-paper patterns, and make another photocopy of everything except the skis. Doing this allows you to copy the detail lines onto the back side of your project. Using carbon paper, transfer the outlines of the patterns to the wood. Cut out the pieces with a scrollsaw, using a #5 blade. Then, drill 1/16" and ¼" holes where shown on the patterns.

Next, sand all pieces with a succession of 100- and 150-grit sandpapers. Using carbon paper, copy the detail lines onto the parts.

Paint Santa, his skis, and banner with a ¼"-wide flat brush. Use the paint color key and the color codes on the patterns. For easier application, thin the acrylic paints with water (5 parts paint to 1 part water). Paint the front, back, and edges of each piece, leaving an unpainted area the size of a quarter where pieces will attach.

To make Santa's pipe, first cut a 1" length from a round toothpick. Then, cut a ½" piece of ¼"-diameter dowel. Drill a 3/32"-diameter hole, ⅛" deep in the side of the dowel. Dab a drop of epoxy on the cut end of the toothpick and insert it into the hole in the dowel. Paint the pipe black.

Dip the handle end of a small artist's brush in black paint and make a dot for each eye. Dot the doll's cheeks red. Dip the end of a toothpick into off-white paint, and make a highlight dot in the doll's eyes at the 1 o'clock position, and in Santa's eyes at the 10 o'clock position. Use a toothpick to paint Santa's eyebrows off-white and the doll's mouth red. Wipe a small amount of red on a cotton swab and blush Santa's cheeks and the tip of his nose. Letter the banner with a fine-tipped brush (we used a no. 4 round brush). To remove fuzz raised by acrylic paints, sand with a piece of a paper grocery bag.

For a hand-carved look, follow the "Key to Pattern Lines" on the pattern at right. You can use an X-acto knife or crafts knife in place of the V-parting tool.

Sand the cut edges down to bare wood with 150-grit sandpaper. Assemble the pieces with quick-setting epoxy. Wire the front arm to the body, twisting the ends in a loop with needle-nosed pliers to secure.

Place a dot of epoxy on one end of a 12" length of 16-gauge wire, and insert the end into the banner. After the epoxy sets, push the wire through Santa's hand. Twist the wire as shown in the photo, *left*.

Using a small drop of epoxy, attach cotton "smoke" to the top of the pipe bowl, and the pipe into Santa's mouth. Place a drop of epoxy in the drilled hole in Santa's left hand. Insert the twig ski pole.

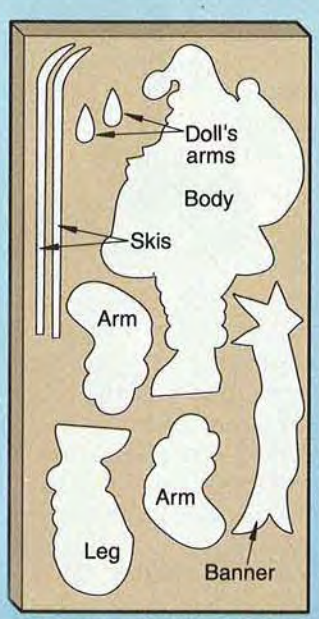
Attach the arms to the doll's body with 24-gauge wire. Place a drop of epoxy into each of the holes in the top of the doll's head. Insert 1¼" lengths of twine into the holes for hair. Allow the epoxy to set. Tie a fabric-scrap bow around one piece of twine. Spray the front, back, and edges with one coat of clear finish. (Sprayed on after assembly, the finish works like hairspray. It keeps the twine from unraveling too much, and keeps the cotton smoke standing up in the pipe.)

For a brochure of Pam's designs, send $2.00 and a S.A.S.E. to Pam Coffman, 1805 Leavenworth Street, Omaha, NE 68102.

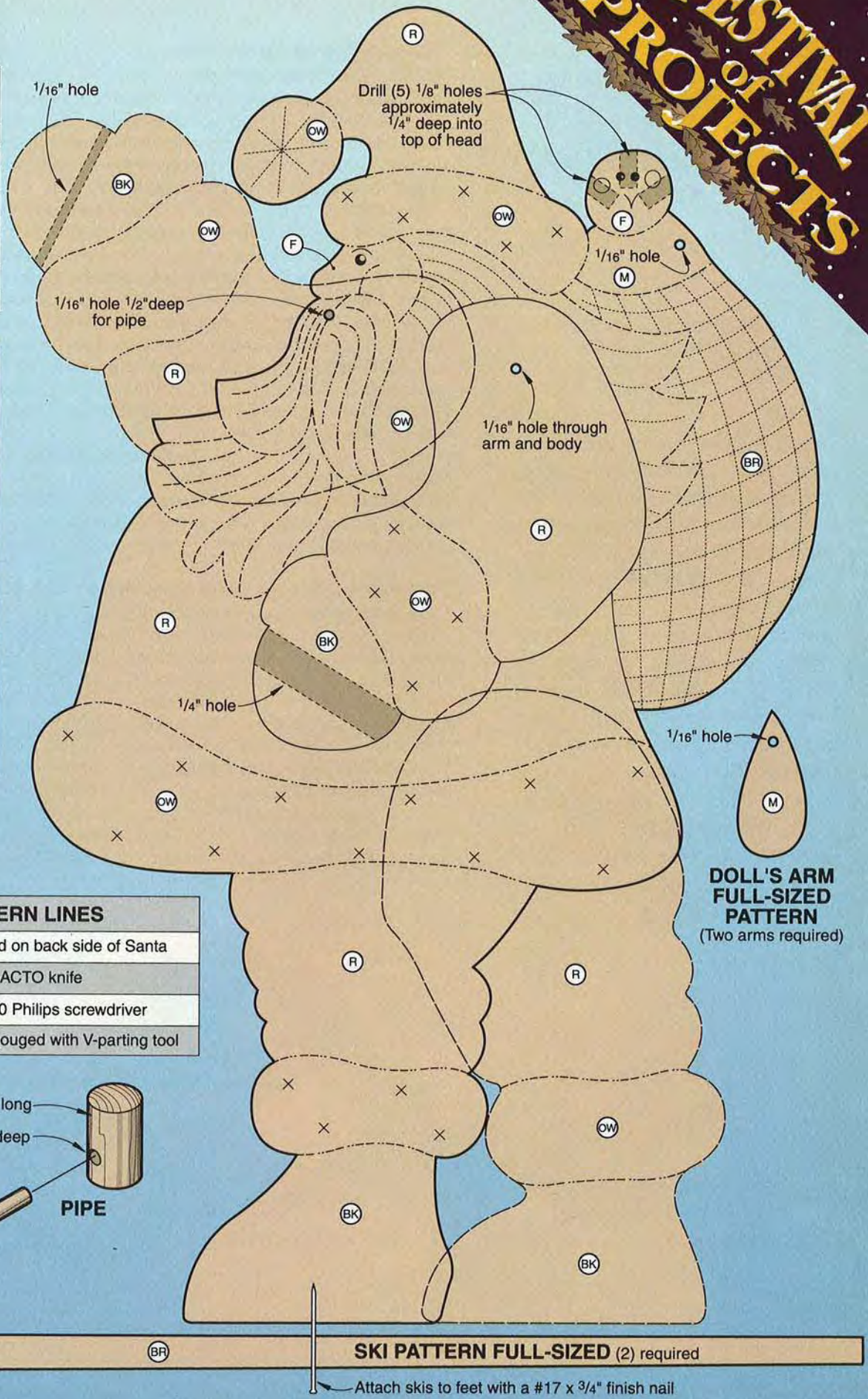
Design by Pam Coffman, Omaha, Neb.
Illustrations: Kim Downing

Print this article

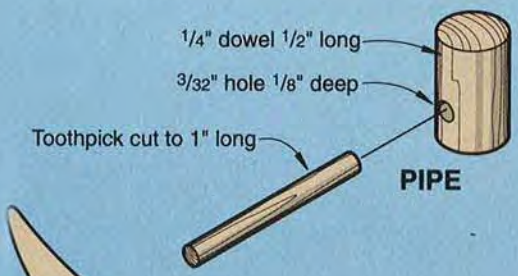
PAINT COLOR KEY	
AG	Antique Gold
BK	Black
BL	Blue
BR	Brown
F	Flesh Tone
M	Mustard
OW	Off-White
R	Red



CUTTING DIAGRAM
3/4 x 8 x 15" Pine


1/16" hole
Drill (5) 1/8" holes approximately 1/4" deep into top of head
1/16" hole
1/16" hole 1/2"deep for pipe
1/16" hole through arm and body
1/4" hole
1/16" hole
DOLL'S ARM FULL-SIZED PATTERN
(Two arms required)
SKI PATTERN FULL-SIZED (2) required
Attach skis to feet with a #17 x 3/4" finish nail

KEY TO PATTERN LINES	
— — —	Workpieces mounted on back side of Santa
.....	Lines scored with X-ACTO knife
×	Punch marks from #0 Philips screwdriver
– – · – – ·	1/16"-deep grooves gouged with V-parting tool



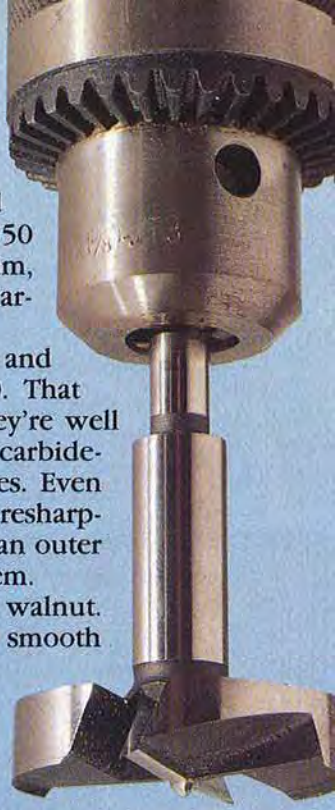
PIPE

15 TOP PERFORMING WOODWORKING PRODUCTS

THESE OFFERINGS PASSED OUR USE TESTS WITH FLYING COLORS

In the ever-more competitive tool market of today, manufacturers rely on new product introductions to protect or improve on their market share. For woodworkers, that means more new and improved woodworking products than you can shake a stick at—some great, some not so great. To help you discover the best, we turned over some 30 products to our hand-picked team of testers. Here's what they saw as the top 15 products in the bunch.

Print this article



Carbide-tipped Forstners—finally, the price is right

Until recently, carbide-tipped Forstner bits had two drawbacks. They were expensive ($20–$50 each, depending on size), and they lacked a rim, making angled cuts impossible. Freud's new carbide-tipped bits offer help in both areas.

The smallest such bit (¼") costs about $11, and the largest (2⅛") sells for approximately $40. That may sound like a lot of money, but I think they're well worth it. Freud's Jim Brewer told me the new carbide-tipped bits should outlast steel bits by 40 times. Even though you may never dull these bits, you can resharpen them if need be. And, because the bits have an outer scoring rim, you can cut angled holes with them.

I tested a 2"-diameter bit in pine, maple, and walnut. The bit ran cool and produced flat bottoms and smooth walls in all three species.

—Tested by Jim Boelling

Freud carbide-tipped Forstner bits, $11–$40 each depending on size. Available at Freud dealers nationwide. For more information, call Freud at 919/434-8300.

Variable burnisher puts new life in old scrapers

I've never had a lot of luck trying to burnish a consistent hook across the length of a hand scraper. So, like a lot of woodworkers, I filed my scraper edges square and made do with okay, but not terrific results. Then, I tried the Veritas Variable Burnisher and found myself in scraper heaven.

With this tool, you need only clamp your scraper in a vise, dial the desired hook angle between 0° and 15°, tighten a thumb screw, place the tool's narrow kerf over the scraper, and give a few strokes. A tungsten-carbide rod inside the tool burnishes the edge at a consistent angle.

I burnished one scraper at 5° for fine stock removal and baby-bottom-smooth surfaces. Another scraper with a 15° hook pulled up shavings like those produced by a hand plane.

—Tested by Bob McFarlin

Veritas Variable Burnisher with Scraper, $34.95 plus postage from Garrett Wade, 161 Avenue of the Americas, New York, NY 10013. To order, call 800/221-2942 or 212/807-1155.

A family of lubricants that protects your tools

I recently had a chance to try Sandaro's sampler box of three aerosol lubricants, and found them effective and much more convenient than similar lubricants in pump bottles. First, I tried Sandaro Top Cote on my tablesaw and jointer tables. I had to rub the product in well, then apply a second coat for best results. One application lasted several weeks during which my tables did not rust (a problem in my garage workshop). Top Cote decreased the friction between the tables and my workpieces, and did not transfer to the wood.

Next, I applied Sandaro's Dri Cote to some saw blades and router bits. As promised on the product's container, the coating helped reduce resin buildup.

Finally, I applied some Sandaro Bearing Lubricant to the pilot bearings on all of my router bits. The manufacturer says this treatment will extend bearing life—a reasonable claim, but one I can't prove or disprove.

—Tested by Chuck Hedlund

Sandaro sampler box of two-ounce aerosol cans of Top Cote, Dri Cote, and Bearing Lubricant, $9.95 at dealers nationwide. Separate cans in larger quantities also available. Write to Sandaro Industries, 68 Leveroni Court, Novato, CA 94949. Call 800/999-7009.

Craftsman sliding mitersaw offers performance and value

When I tested mitersaws for the February, 1992 issue of *WOOD®* magazine, the Sears model 23488, 8¼" sliding-compound mitersaw was still in its developmental stage. My sources at Sears assured me the saw would sell for about $400 ($50 to $100 less than similar saws I was testing) and that it would have all the features of its higher-priced competitors. After giving this saw a thorough workout, I'm happy to say that Sears has delivered on its promise.

The model 23488 looks and functions much like the Hitachi C8FB 8½" sliding-compound mitersaw. Both machines crosscut stock up to 12" wide and 2½" thick, miter-cut material up to 8⅝" wide, and bevel-cut stock up to 1¾" thick. The Sears machine has a cast-iron base and weighs 70 pounds—nearly twice as heavy as the aluminum-based Hitachi.

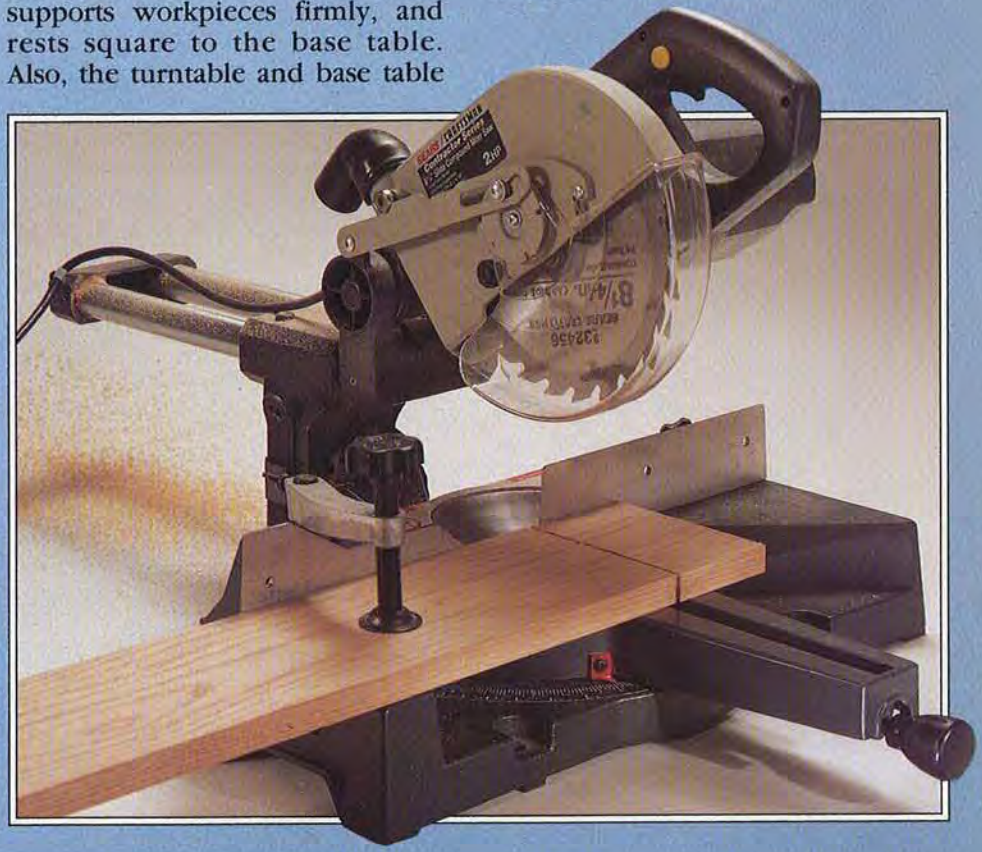
In terms of overall performance, the Sears saw has a slight edge on the Hitachi. Changing blades on the model 23488 was a snap, and its guard provides high levels of safety *and* convenience. The fence supports workpieces firmly, and rests square to the base table. Also, the turntable and base table align well with each other for an overall flat surface. The degree-of-cut scales read clearly and proved accurate in my test cuts.

My chief concern about this saw stems from the low-quality 8¼" carbide-tipped blade that comes standard. It proved suitable for rough cuts only. To get the machine to perform up to its capabilities, you'll have to install a better blade. I had good results after purchasing a Sears 8¼" Control Cut 40-tooth blade, model no. 29241 (about $25).

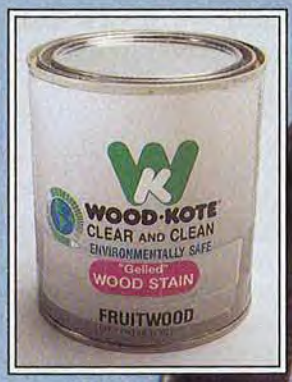
Because of its weight, this saw will suit you fine if you leave it in one place. If you need to move your sliding-compound saw often, look for another machine. Because of the saw's excellent dust-collection capabilities (nearly all of the dust shoots through the dust port), I wish my machine had come with a dust bag. You can pick up this optional item for about $6.50.

—Tested by George Granseth

Sears model 23488 sliding-compound mitersaw, about $400 at Sears stores nationwide.



Gelled water-based stain doesn't fuzz



I've tried my share of water-based stains, and many of them share the same problem: they fuzz the surface of the wood, making it difficult to sand subsequent clear coats without revealing unstained wood. Now, I've found a product that works.

My sample of Wood-Kote Clear and Clean Environmentally Safe Gelled Wood Stain in a fruitwood shade required no mixing (a nice start). I rubbed it in generously, and then wiped it off with little effort, leaving a uniformly covered surface. Fuzzing was within acceptable levels. The lack of odor and quick cleanup made it a joy to use.

—Tested by Chuck Hedlund

Wood-Kote Clear and Clean Environmentally Safe Gelled Wood Stain, available in 10 colors in half pints and quarts, ranging in price from $4.99 to $10.50. For the location of your nearest dealer, write to Wood-Kote, P.O Box 17192, Portland, OR 97217. Call 800/843-7666 or 503/285-8371.

How do you improve a great clamp? Make it smaller!

I've been a big fan of Quick-Grip Bar Clamps ever since they came on the market a couple of years ago. Because you operate these clamps with just one hand, your other hand is free to hold the workpieces in alignment—a huge advantage over standard bar clamps.

Now, the manufacturer, American Tool Companies, has done itself one better with the introduction of the Quick-Grip Mini Bar Clamp.

Purple sanding belts leave others in the dust

Porter-Cable's new Purple Sanding Belts have several things going for them, besides their colorful looks. First of all, a long-angle butt splice holds the belt ends securely together, making the belt reversible. Now you no longer have to search for the directional arrows during installation. In my tests, these belts worked well in either direction, and produced no "thump" as the seam ran across the base of my portable belt sander.

And, I discovered one more bonus during operation and installation. Compared to others, these Purple Sanding Belts track better, requiring no tracking adjustment between changes. This saves you time if you change belts frequently.

Porter-Cable says the belts have a special mineral—called P-graded Regalite—that provides higher stock removal rates with less heat and loading, and more uniform sanding. This may be true, but I didn't notice drastic differences in these areas between the Purple Sanding Belts and other brands. All in all, I rate these the best sanding belts available.

—Tested by Chuck Hedlund

Porter-Cable Purple Sanding Belts, made by 3M and distributed through Porter-Cable dealers nationwide. Available in 3×21", 3×24", and 4×24" sizes in 50-, 60-, 80-, 100-, 120-, and 150-grit. List prices range from $2.65 to $5.90 for five-packs. For more information, write to Porter-Cable, 4825 Highway 45 North, P.O. Box 2468, Jackson, TN 38302. Call 901/668-8600.

This new model (shown in the foreground of the photo *below)* works just like the older version (in background), and has a 6" jaw opening. Its scaled-down profile allows easy access to confined areas, and at only 12½ ounces—it weighs less than half as much as the standard Quick-Grip clamp. It has nearly the clamping strength of its big brother, and the jaws release easily. You'll love this clamp for work on small or delicate workpieces.

—Tested by Chuck Hedlund

Quick-Grip Mini Bar Clamp, about $13 each through woodworking catalogs or at hardware stores and home centers nationwide. For more information, call American Tool Companies at 402/683-2315.

Carba-Tec miniature lathe: small in size, big in fun

Whether you're an experienced woodturner, or someone looking for a safe, simple, and affordable way to get started, you should check out the Carba-Tec miniature lathe from Woodcraft Supply. I recently gave this little dynamo a workout, and had a lot of fun in the process.

The lathe was a snap to set up, and in no time I turned a few 2–3"-tall weed pots and some similarly scaled bowls and other vessels. I found most of my conventional turning tools too big and awkward, so I switched to a set of Robert Sorby micro turning tools (also available from Woodcraft for about $70).

Because of the machine's minimal noise, low vibration, and scanty dust output, I found it perfect for practicing my cutting techniques. Its friendly manners and petite size make it ideal for teaching turning to youngsters.

The 22"-long lathe weighs only 28 pounds (without motor), so you can easily store or transport it. The machine measures 12½" between centers, has a 6" swing over the bed, and an 8½" swing over the gap in the bed. ("Swing" refers to the maximum diameter of a turned workpiece.) It comes standard with a 4-prong spur drive, dead center, 3⅛" tool rest, 2" faceplate, belt, and instruction manual. You can buy additional accessories, including a ball-bearing tailstock, ⅜" drill chuck, and 3- and 4-jaw chucks. You'll need to supply your own motor or purchase a ¼-hp, 1725-rpm model from Woodcraft for $90.

—Tested by Marlen Kemmet

Carba-Tec Miniature Lathe, $249 plus shipping from Woodcraft Supply, 210 Wood County Industrial Park, Parkersburg, WV 26102-1686. Call 800/225-1153.

Continued

A drilling/driving combo for your power drills

When a project requires a lot of screws, you need accessories on hand to quickly switch your drill from countersinking to screwdriving. For my money, the Drill-N-Drive system works faster than any other method I've tried for these tasks, short of having two drills at my side (a nice luxury if you can afford it).

You can purchase two types of Drill-N-Drive attachments. The counterboring models work with either no. 6 or no. 8 screws. For drilling centered holes when mounting hinges, three Vix-bit models handle screws in one of these size groups: # 2, 3, and 4 screws; # 5 and 6 screws; or # 8, 9, and 10 screws.

Both types work in the same way. First, you chuck the driving bit into your drill (the bit has ends for Phillips or square-drive screws). Then, you slip the prongs of the Drill-N-Drive accessory into the gaps between the jaws of the drill's chuck. After drilling the hole, you slip the accessory off, drive the screw, slip the accessory back on, and repeat the process for the next screw.

Initially, I thought the Drill-N-Drive assembly might slip, but the prongs grip it solidly within the chuck. Whichever model you buy, it should last a long time, thanks to its sturdy construction.

—Tested by Bob McFarlin

Drill-N-Drive Counterbores and Vix bits, $13.95 each plus $4.50 handling from The Woodworkers' Store, 21801 Industrial Boulevard, Rogers, MN 55374-9514. Five different versions available. Call 612/428-2199.

This tool puts your small projects in great shape

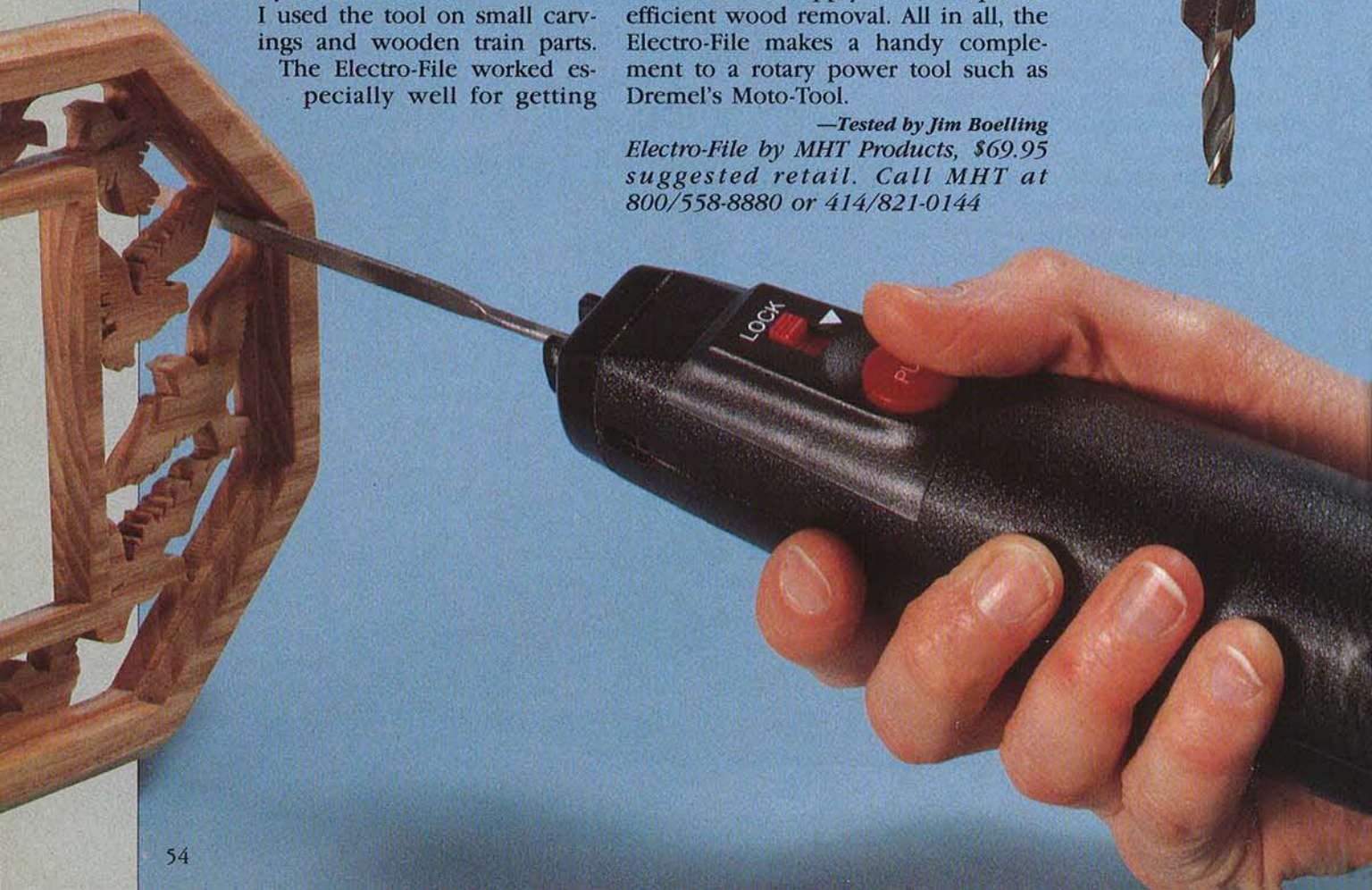
Here's a tool that bears serious consideration by any hobbyist involved in shaping, cutting, sanding, and filing small parts for toys, models, carvings, or most any crafts project. It's the reciprocating and rechargeable Electro-File by MHT Products.

I used the tool on small carvings and wooden train parts. The Electro-File worked especially well for getting into tight spots, giving me good control over stock removal.

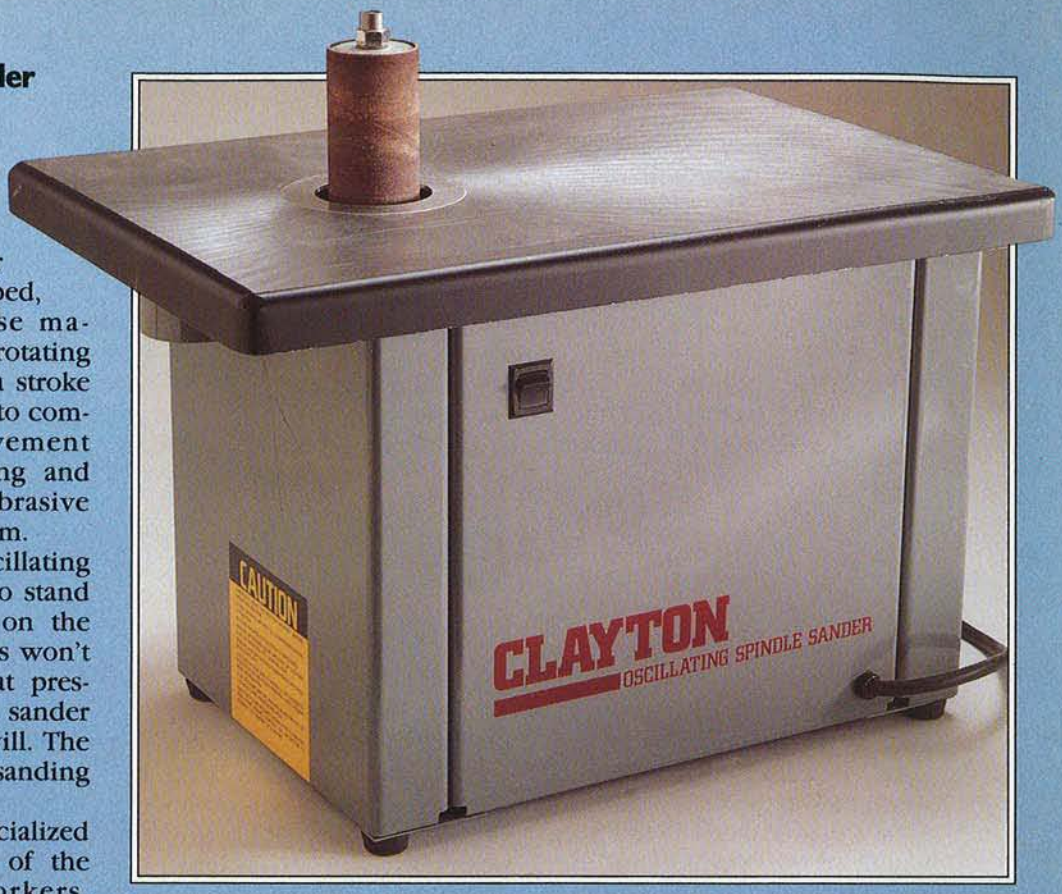
In addition to the four saw blades, four sanding paddles, and four files (these seem best suited to metal working), I would like to see the manufacturer supply some rasps for efficient wood removal. All in all, the Electro-File makes a handy complement to a rotary power tool such as Dremel's Moto-Tool.

—Tested by Jim Boelling

Electro-File by MHT Products, $69.95 suggested retail. Call MHT at 800/558-8880 or 414/821-0144



Oscillating spindle sander has advantages galore



During my years as a foreman in a furniture factory, my crew and I depended on oscillating-spindle sanders for smoothing irregularly shaped, bandsawed edges. These machines move the rapidly rotating spindle up and down in a stroke that takes a second or two to complete. This vertical movement greatly reduces overheating and debris buildup on the abrasive surface of the sanding drum.

Unlike a drill press, oscillating spindle sanders are built to stand up to sideways pressure on the spindle. And, their spindles won't deflect sideways from that pressure the way that a drum sander mounted in a drill press will. The end result: much quicker sanding and truer edges.

Until recently, these specialized sanders were priced out of the range of most woodworkers. Now, you can purchase a no-nonsense oscillating spindle sander from Clayton Machine Corporation for $625 (no relation to Larry Clayton, *WOOD*® magazine's editor). I've used the Clayton Model 140 for several months in the *WOOD* magazine shop, and here's what I discovered.

Despite its price, this machine operates on a par with the industrial-sized units I was used to. It creates little noise or vibration, making it a pleasure to use. Neither its table or arbor tilts, so it doesn't sand at an angle, but 99 percent of the projects I build for *WOOD* do not require this feature. The machine's construction is first-rate, and the spindle and table were aligned at the factory to be 90° to each other. Even when I sanded a 3"-thick chunk of walnut, I noticed no deflection in the spindle.

The Model 140 comes with a ½" spindle and three 4½"-long drums in ¾", 2", and 3" diameters. The spindle holds a ½" sanding sleeve, and the three drums change easily with a wrench. A spindle speed of 1,750 rpm, combined with a vertical stroke of ¾", make for fast and cool sanding no matter what drum diameter or wood species I tried.

A 2½" dust port connects to a shop vacuum or, with an adapter, to a dust collector. The highly efficient system collects 95 percent of the sanding dust, even when I dial my variable-speed shop vacuum to its lowest (and quietest) setting. Some of this efficiency results from using the machine's two table inserts, which provide a tight opening and full support around the smaller sanding sleeves. The inserts sit perfectly flush with the machine's flat, smooth, cast-iron tabletop.

The Model 140 weighs 80 pounds and also comes with a sturdy drum rack and 16 sanding sleeves in various sizes and grits. Clayton Machinery sells replacement sleeves as well as pneumatic drums for use with the machine. If you're looking for bigger machines that sand at angles, Clayton sells those, too.

—Tested by Jim Boelling

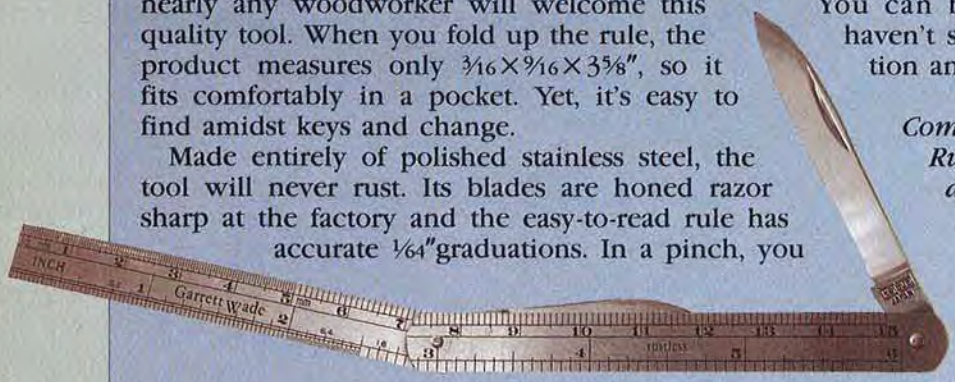
Clayton Model 140 Benchtop Oscillating Spindle Sander, $625 from dealers nationwide or directly from Clayton Machinery Corp., P.O. Box 513, Clawson, MI 48017. Call 313/548-2380.

Continued

Pocketknife/precision rule makes a great stocking stuffer

Due to its slim design and 6" fold-out rule, nearly any woodworker will welcome this quality tool. When you fold up the rule, the product measures only 3/16×9/16×3 5/8", so it fits comfortably in a pocket. Yet, it's easy to find amidst keys and change.

Made entirely of polished stainless steel, the tool will never rust. Its blades are honed razor sharp at the factory and the easy-to-read rule has accurate 1/64"graduations. In a pinch, you can even use the rule to transfer angles.



You can buy cheaper pocketknives, but I haven't seen any of higher quality construction and materials than this product.

—Tested by Bob McFarlin

Combination Pocketknife and Precision Rule, no. 02N01.01, $28.95 plus postage from Garrett Wade, 161 Avenue of the Americas, New York, NY 10013. Call 800/221-2942.

New Delta machine cuts mortising jobs down to size

Like a lot of you, I've gotten used to cutting square-walled mortises the old-fashioned way. First, I drill a series of holes the length of the mortise, and then I square the walls with a chisel. If I have a lot of mortises to cut, I hook up my drill press' mortising attachment. Because both methods take considerable time and effort, my ears perked up when I heard about Delta's new hollow-chisel mortiser priced under $500.

In my tests, the machine worked well in all of the woods I use regularly, including oak, ash, cherry, walnut, and pine. I was able to set it up for accurate cuts in a fraction of the time required to set up my drill-press mortiser, and the Delta machine seemed to slice through the wood faster and with less effort. Because its raising-and-lowering handle extends twice as long as my drill-press handle, the Delta unit gives me additional leverage during the cutting stroke.

I also attribute some of the machine's cutting ease to its relatively fast, fixed speed of 3,400 rpm. Since the instructions with the 3/8" Delta chisel-and-bit set that I used with the machine suggest speeds of 2,400 rpm for softwoods and 1,250 rpm for hardwoods, I was afraid I might burn the cutting edges. But, no matter how fast I fed stock into the mortiser, burning wasn't a problem. (The machine does not come with bits or chisels; Delta sells chisel-and-bit sets in 1/4", 5/16", 3/8", and 1/2" sizes, costing $29.55 to $39.20 list.)

Although the machine is thoughtfully designed for convenient and long-term use, I made one small modification to it. I kept misplacing the machine's three-jaw chuck key and adjustment wrench, so I drilled two small holes in the plastic cap at the top of the support column for holding these pieces. When I called Steve Holley of Delta, he said that Delta was already in the process of making this modification to the column cap.

Regarding capacity, the machine holds stock up to 4" high under its hold-down, has a 4 1/4" stroke, a dovetail-way slide mechanism, and an ample 1/2-hp, totally enclosed, fan-cooled motor. It weighs only 44 pounds and stands 31 1/2" tall, so it stores easily.

Because of its price, I put this machine in the "luxury" category for most woodworkers. But, if you cut a lot of mortises, you will quickly appreciate its talents. The machine is made for Delta in England by Multico. In Canada, it's distributed by General Manufacturing.

—Tested by Chuck Hedlund

Delta model 14-600 hollow-chisel mortiser, less than $500 from Delta distributors nationwide. For more information, call Delta at 800/438-2486 or 412/963-2400.

This raised-panel-door set for shapers does it all

Attention shaper owners: Would you like to have an all-around selection of raised-panel-door styles at your disposal, without busting your budget? Here's your chance. Freud's new Performance System consists of a rail-and-stile head with interchangeable cutters in nine profiles, and a raised-panel head with interchangeable cutters in five profiles. With these sets, you can create more than 60 door styles for wood or glass panels.

I've seen the rail-and-stile set on sale for less than $500, and the raised-panel set for $270. At these prices, the Performance System can save you a lot of money compared to buying separate, conventional cutters. Also, if you chip or shatter a knife, you're only out the cost of one set of replacement knives (about $38).

Other manufacturers have offered interchangeable-knife systems for some time, and most of them suffer from the same problem: the head holds two knives that must align perfectly, but they rarely do. The result: one knife does all the cutting. With Freud's knife-alignment system, the manufacturer seems to have this problem solved.

In my tests, the rail-and-stile head produced clean, splinter-free cuts. To change from the stick cut (on the inside edges of the rails and stiles) to the cope cut (on the ends of the rails), I merely had to change the height of the cutterhead. The precision-machined head should last a lifetime or two.

However, I didn't find the raised-panel set as impressive. The alignment tolerances of the knives did not seem to be as tight as with the rail-and-stile set. Also, I prefer a coving cutter for the back-relief cut over the square groover on the Performance System raised-panel set.

—Tested by George Granseth

Freud Performance System, $744 list for the rail-and-stile head with nine profiles (head alone lists for $420 and separate profiles available for $38.40 each); $396 list for the raised-panel head with five profiles (head available separately for $180 and two-knife profiles sell for $40.80 each). For more information, call 919/434-8300.

Water-based enamel paint combines the best of two worlds

Carver Tripp's new Super Poly Enamels give you the kind of tough, high-gloss finish you expect from a traditional polyurethane oil enamel paint, but in a water-based formula. That means the environmentally friendly paint produces little odor, dries quickly, and cleans up easily.

In my tests, the product mixed well and went on smoothly with a foam brush. I tried Regatta Red, which covered in one coat, but I would recommend two applications for best results. It dried in 30 minutes—fast for an enamel. Cleanup with soap and water was easy.

You can buy this paint in any of 10 colors in half-pint or quart containers. Two tint bases—gloss and satin in quart cans—allow you to mix virtually any pastel color using standard tints. Because of the product's nontoxicity, the manufacturer strongly recommends this product for use on furniture and children's toys. Before using this paint on bare steel or iron, you must prime the metal with a rust-inhibiting primer.

—Tested by Chuck Hedlund

Carver Tripp Super Poly Enamel paints, $9.99 list price for quarts and $4.99 for half-pints, from dealers nationwide. For more information, call 800/225-8543 or 508/679-5938.

AFFORDABLE
A GREAT-LOOKING TABLE

If you've been into a lighting store recently, you know that a good-quality table lamp can set you back hundreds of dollars. There is a better way though. Build your own. We built ours in less than three hours. For your convenience, we've included a Buying Guide source for the electrical hardware.

Print this article

Let's start with the mitered column

1 Tilt your tablesaw blade for a 45° bevel cut. Test-cut scrap stock to verify an accurate 45° setting.

2 Start with two pieces of figured stock (we used curly maple) measuring 3×34". Bevel-rip one edge of each piece.

3 Position the rip fence, and bevel-rip the opposite edge of each piece for a 2¾" finished width.

4 Crosscut four 16½"-long pieces (A) from the two pieces of stock. Dry-clamp the four pieces and check for tight miter joints. Trim if necessary.

5 With the ends flush, glue the column pieces (A) together. (We used masking tape to hold the pieces in position, freeing our hands to position and tighten the band clamps.)

6 Scrape off the glue squeeze-out, and sand the column, being careful not to round the corners.

Now, add the trim, base, and feet

1 Cut the walnut top and bottom trim pieces (B) to size. Rout a ¼" cove along all four edges of one face of each piece. Sand the pieces smooth.

2 Using the dimensions on the Exploded View drawing, mark the centerpoints, and then drill a ⅜" hole centered on each mark.

3 Glue and clamp both trim pieces, carefully centering them on each end of the column. After the glue dries, remove the clamps. Drill mounting holes in the bottom piece (B), and reinforce the glue joint with wood screws.

4 To form the 1¼"-thick base, laminate one piece of 7"-square ¾"-thick stock to the same sized piece of ½"-thick stock. (We planed ¾" stock to ½" thick for the thinner piece.)

5 Cut the base (C) to size from the lamination. Rout a ½" cove 7/16" deep (to avoid routing through the joint line) along all four edges. Sand the part smooth. (To sand the ½" cove, we wrapped sandpaper around a piece of 1" dowel stock.)

6 Bore a 1½" hole ¾" deep centered on the bottom side of the base (C).

7 Glue and clamp the base piece, centering it on the bottom end of the column.

8 Cut the four feet (D) to size and glue them to the bottom of the lamp base.

9 Finish-sand the lamp, and apply a clear satin finish.

10 Install the electricals where shown on the Lamp Parts Assembly drawing.

Buying Guide

• **Lamp hardware kit.** All the electrical parts shown on the drawing. (Shade not included). Kit no. 3199, $10.99 plus $3.95 shipping per order. Meisel Hardware Specialties, P.O. Box 70W, Mound, MN 55364-0070. Call 800/441-9870 to order.

Bill of Materials

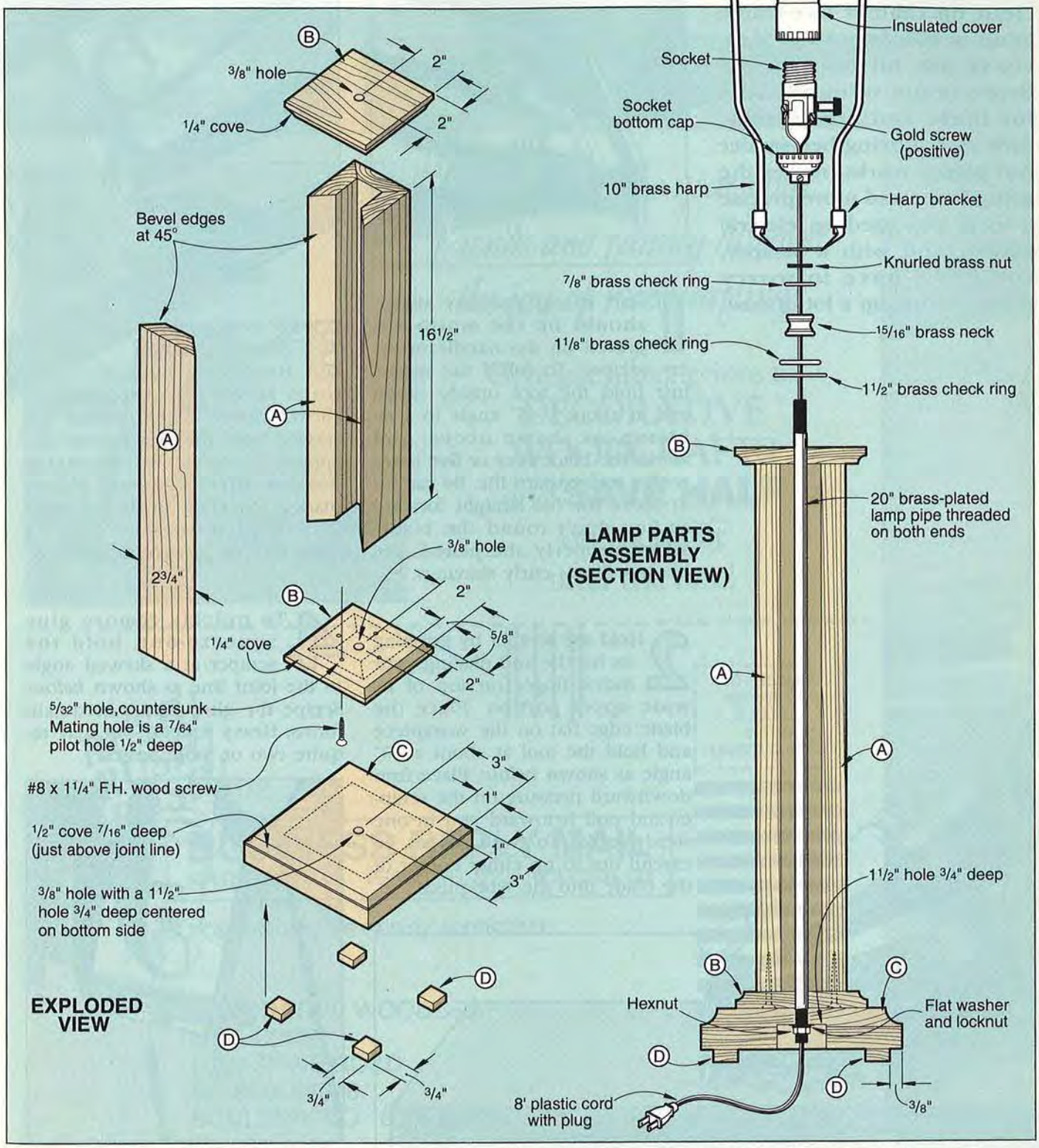
Part		Finished Size T	W	L	Matl.	Qty.
A*	column pieces	¾"	2¾"	16½"	M	4
B	top & bottom	½"	4"	4"	W	2
C*	base	1¼"	6"	6"	LM	1
D	feet	⅜"	¾"	¾"	M	4

*Initially cut the parts marked with an * oversized. Then, trim them to finished size according to the how-to instructions.

Material Key: M–maple, W-walnut, LM-laminated maple

Supplies: #8×1¼" F.H. wood screws, finish.

ELEGANCE
LAMP FOR UNDER $50

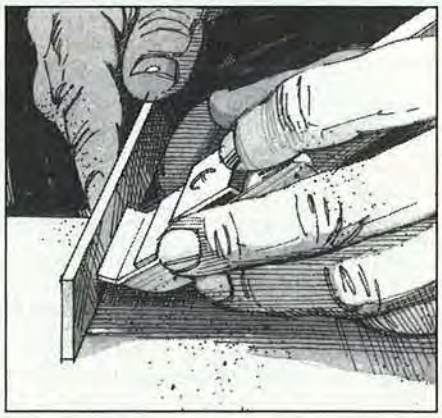


Produced by Marlen Kemmet Project Design: Tim Connors, Mt. Horeb, Wis. Photographs: Hopkins Associates Illustrations: Kim Downing

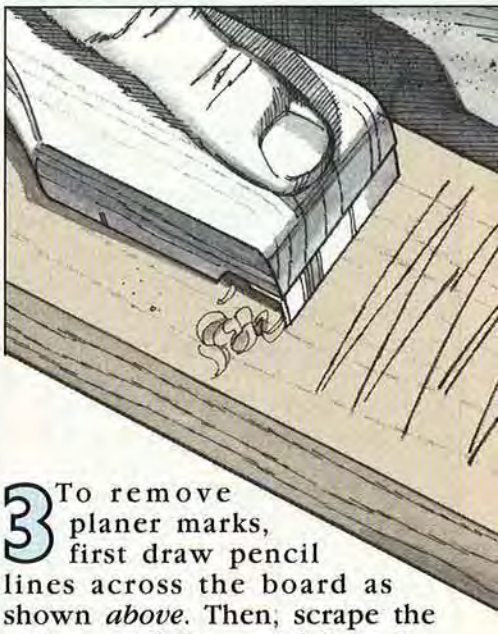
HOW TO SHARPEN AND USE A

Looking for an easy way to clean up cabinet face-frame joints or glued-up stock? If so, you've just hit pay dirt. Believe it or not, using a scraper for these and other tasks, such as removing belt-sander and planer marks, makes the going faster and more precise than if you used an electric sander. And with a scraper, you don't have to worry about kicking up a lot of dust.

Print this article

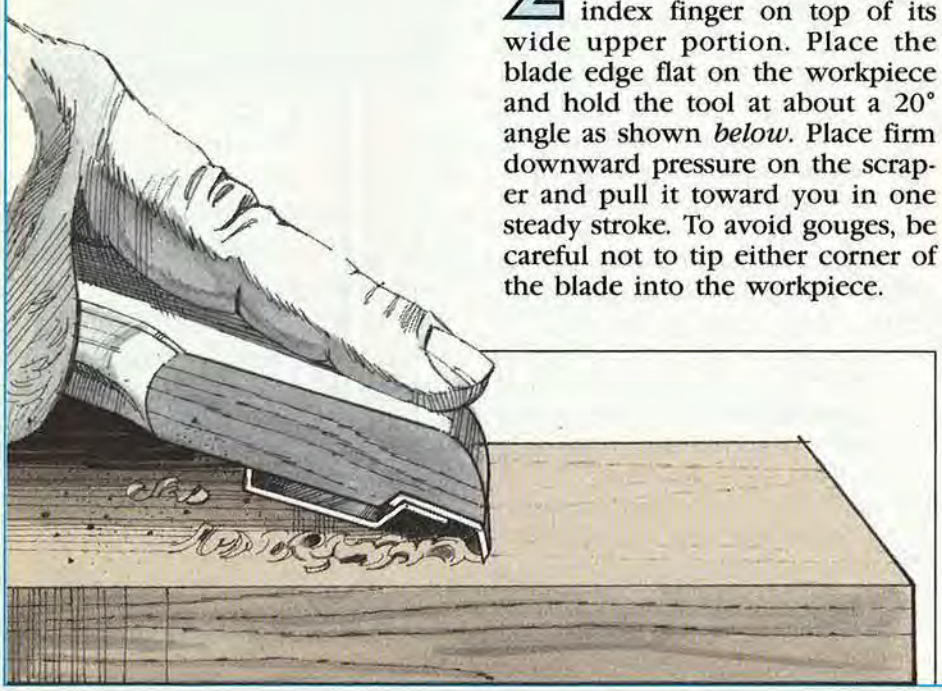


1 "Start sharp, and stay sharp" should be the motto engraved on the handle of every scraper. To fulfill the motto, just hold the tool upside down and at about a 45° angle to a tabletop, as shown *above,* and stroke the blade four or five times with a mill bastard file. Be careful to move the file straight forward so you don't round the blade. When properly sharpened, the blade will cut curly shavings.

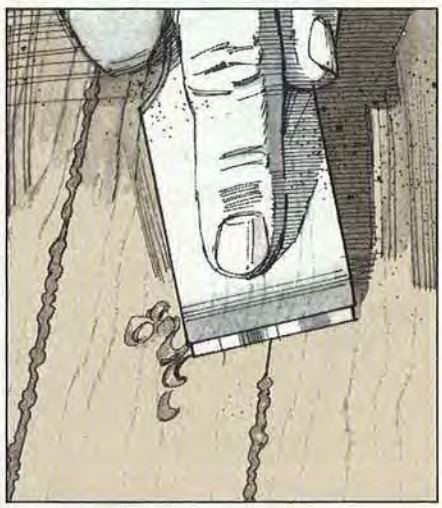


3 To remove planer marks, first draw pencil lines across the board as shown *above*. Then, scrape the surface until the pencil lines disappear. Complete the smoothing process after removing planer marks, scratches, dents, or other surface blemishes by sanding with 150- or 220-grit sandpaper.

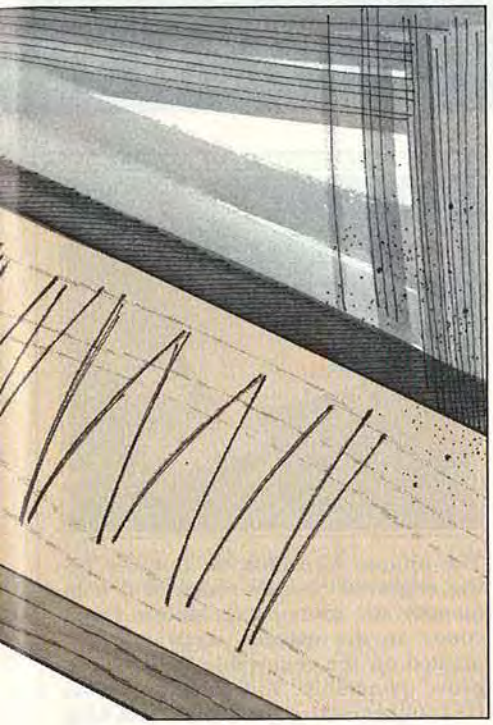
2 Hold the scraper by gripping its handle and placing your index finger on top of its wide upper portion. Place the blade edge flat on the workpiece and hold the tool at about a 20° angle as shown *below*. Place firm downward pressure on the scraper and pull it toward you in one steady stroke. To avoid gouges, be careful not to tip either corner of the blade into the workpiece.

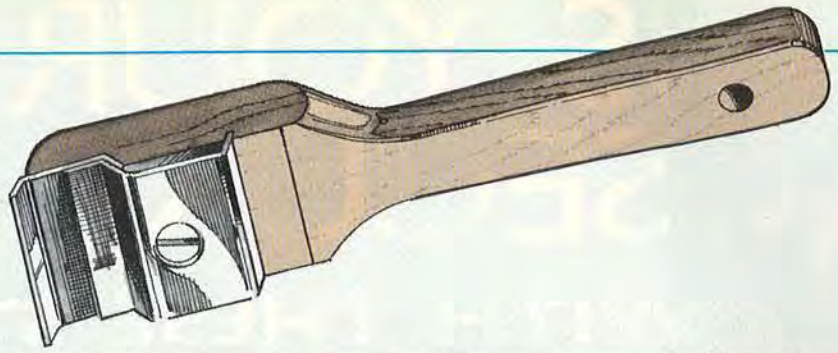


4 To quickly remove glue squeeze-out, hold the scraper at a skewed angle to the joint line as shown *below*. Scrape the glue after a hard skin forms. Heavy squeeze-out may require two or more passes.



SCRAPER





5 The 3-step sequence at *right* shows how to scrape flush the adjoining rails and stiles of door and face frames.

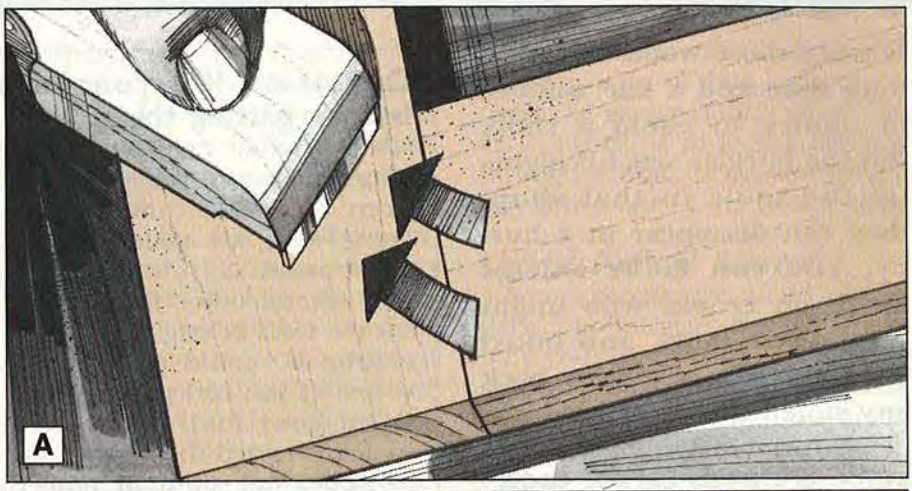
First, pull the scraper diagonally across the joint to bring it flush and remove glue squeeze-out.

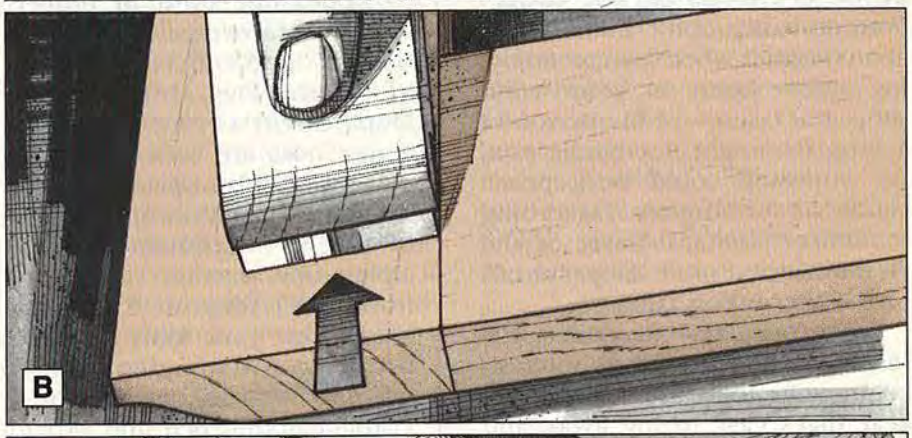
Then, remove the diagonal scratches from the stile by pulling the scraper with the grain. Be careful to put the scraper blade just up to—but not beyond—the glue joint.

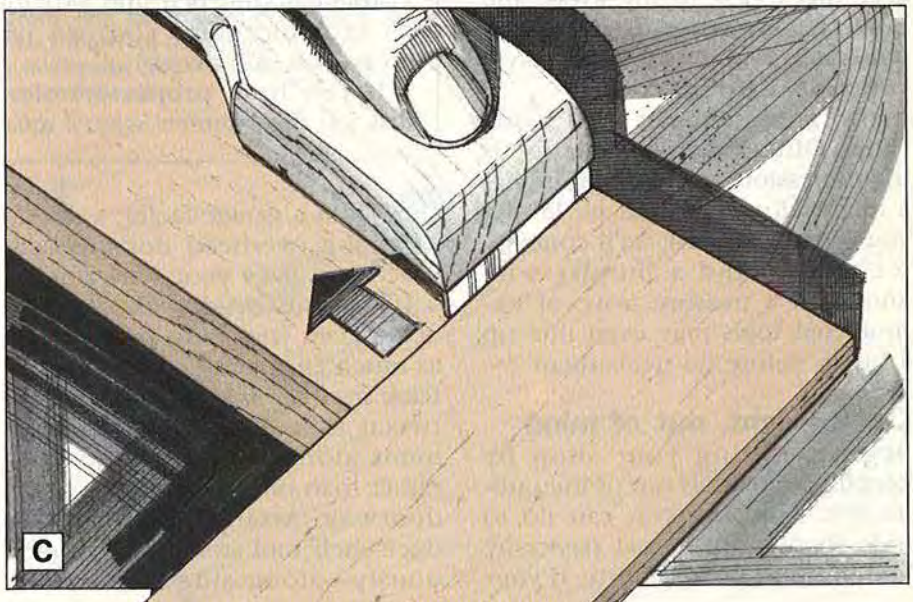
Finally, clean up the rail by placing the blade up to the glue joint and pulling straight back.

Buying Guide

• **Stanley scraper.** Model No. 28-291 (1½"-wide blade), $6.50 suggested retail price, or model No. 28-293 (2½"-wide blade), $9, available at hardware stores nationwide. For more information, write to: Stanley Tools, Customer Service Dept., 600 Myrtle St., New Britain, CT 06050.







IS YOUR SHOP SECURE FROM WITH THESE STRATEGIES,

It takes most woodworkers a long time and a fair amount of money to equip a shop. But if a burglar sets his sights on the tools in that shop, they can disappear in a hurry. You can make things tough on crooks who might want *your* tools, and boost your chances of getting back any stolen items. Here's how.

Some criminals target tools

You probably don't think much about crime when you're enjoying a few hours in your workshop. But crime—in the person of a burglar—might not ignore you. "A workshop could be a prime candidate for burglary," according to Officer Richard Davis of the Des Moines Police Department Crime Prevention Unit.

Some burglars—juveniles, for instance—may not be as interested in your tools as in electronic gear that's easy to lug away and quickly convertible to cash. Most will grab a Compact Disc player rather than a disc sander.

The greatest threat to a workshop, Officer Davis explains, is the professional burglar. "If he has a market for tools, and he knows you're well stocked, he'll come after them." And a burglar who knows of a treasure trove of unprotected tools may even line up a buyer before he steals them.

Out of sight, out of mind

Begin securing your shop by keeping your tools out of the public eye. Anything you can do to hide them from casual passersby will increase your security. If your shop is in a garage facing a street, keep the overhead door closed when you have your tools out.

If you must work with the door open, keep your tools out of sight as much as possible, putting them back into cabinets or drawers between uses. Place larger equipment along walls, if practical, rather than on display in the open doorway. Arrange pegboard or open-shelf tool storage inconspicuously—along sidewalls rather than the wall facing the overhead door, for example. And, close and secure the door when you leave the shop for any length of time.

Window shades or frosted glass will help, too. Hardware stores sell plastic film to make clear windows opaque.

Give your tools personality

Too often, stolen tools recovered by police lack identifying marks. That makes it almost impossible

Operation ID—your best bet for getting things back

It's the worst possible case. A king's ransom in stolen tools has been recovered, and you just know some are yours. But you can't positively identify them, and several other theft victims say the tools belong to them. Operation ID could prove what's yours—if you had properly identified your tools first, before someone carted them away.

"About one third of property stolen is recovered with Operation ID," said Officer Richard Davis of the Des Moines Police Department Crime Prevention Unit. Those are better odds than you have with unmarked tools.

Under Operation ID, a police or sheriff's department assigns an alphanumeric code (letters and numbers) to you. Then, you mark it on your tools and other property. (Many departments will loan you an engraver or invisible-marking pen and provide an inventory form you can put away in a safe place.)

If you have property stolen, just tell the lawmen what's missing and how it was marked. They can trace ownership of recovered goods with just those letters and numbers. It's your best bet for getting stolen tools back.

To take part in Operation ID, contact your local police or sheriff's department. Most agencies will arrange group presentations, say to a woodworking club or neighborhood group.

The unique identification number being engraved on this router will help identify the tool if it is stolen. Don't count on the maker's serial number, printed on the removable foil label, to prove ownership. You could apply the ID number with an invisible marking pen. Keep a list of your tools noting the location of the engraved ID number.

THIEVES?

YOU CAN BE SURE IT IS

for police to return them or for you to prove ownership. Even recording tool serial numbers on paper may be a waste of time.

"A lot of serial numbers now are on labels that peel right off," Officer Davis notes. A high-value power tool that's unmarked and has a peel-off serial number is as good as cash to a burglar.

Where does that leave you? Without tools, unless you do *something* to make your tools distinctive and traceable to you. That's where the nationwide Operation ID program comes in handy. (See *opposite page*).

Of course, alterations to a tool can make it a little easier to spot, too. An aftermarket accessory or something as simple as a longer replacement cord could help you pick out your tool from a stack of recovered property. Painting an identifying logo or your name on the tool could help, also.

Whatever you do, be sure to make records of your tools, noting their identifying marks or characteristics. (See "A picture could be worth thousand$," *WOOD* magazine, September 1991.) Such records will help you determine what's missing so you can give accurate information to police and your insurance company.

Delay the bad guys

"Protect your property by slowing intruders down," Officer Davis advises. Burglars—amateur and professional alike—don't want to spend a lot of time getting inside a place. They don't want to make much noise. And once inside, they need to be able to exit quickly while carrying armloads of your stuff.

"They don't like to smash out an entire window—that makes too much noise," Officer Davis says. "Instead, they'll break a small hole so they can reach through to unlatch the window."

But you can foil that entry attempt by securing shop windows with auxiliary latches. Something as simple as blocking a window sash with a dowel or nail inserted into a hole drilled into the frame will do the trick. (Double-headed nails work great.)

Some yeggs try to enter a basement workshop by kicking out a window. A security grid or bars across the basement window will prevent that. Be sure, though, that you can easily unlock the bars from inside for fire safety.

Make sure your doors are secure, too. Burglars won't be able to get in (or back out) easily if the shop door—preferably a solid-core one without any glass—has a double-cylinder deadbolt on it. An easy way to burglarproof an overhead garage door, Officer Davis explains, is to lock a padlock through a hole in the door track just above one of the door rollers.

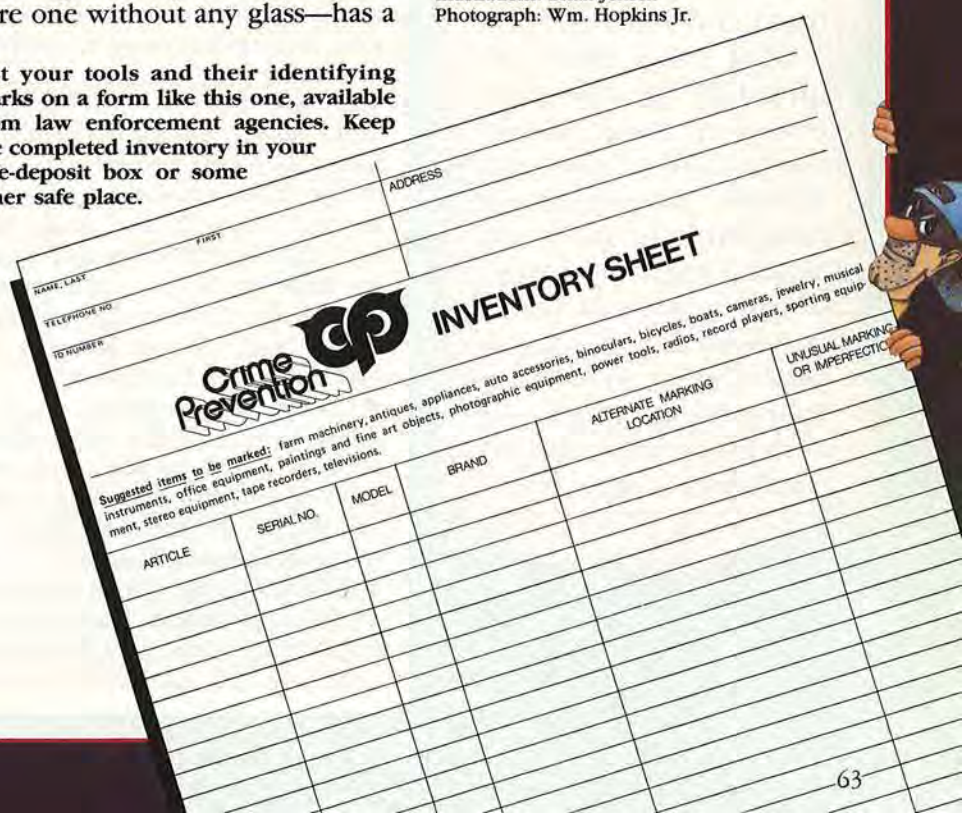
Lights! Action! Alarms!

Some people are afraid of the dark, but burglars love it. That's why you want to light up the outside of your shop, particularly near doors and windows. Inexpensive and easy-to-install floodlights with motion sensors provide an economical alternative to leaving lights on all night.

To install an alarm system or add your shop to an existing home-security system, seek advice from a qualified professional. An inadequate security system, by giving you false peace of mind, can be worse than none at all.

Illustrations: Brian Jensen
Photograph: Wm. Hopkins Jr.

List your tools and their identifying marks on a form like this one, available from law enforcement agencies. Keep the completed inventory in your safe-deposit box or some other safe place.


NAME: LAST
FIRST
ADDRESS
TELEPHONE NO.
ID NUMBER
Crime Prevention
INVENTORY SHEET
Suggested items to be marked: farm machinery, antiques, appliances, auto accessories, binoculars, bicycles, boats, cameras, jewelry, musical instruments, office equipment, paintings and fine art objects, photographic equipment, power tools, radios, record players, sporting equipment, stereo equipment, tape recorders, televisions.
ARTICLE
SERIAL NO.
MODEL
BRAND
ALTERNATE MARKING LOCATION
UNUSUAL MARKING OR IMPERFECTION

TOOL-BUYER'S

WELCOME PARDNER!

Looking to fill out your herd of woodworking power tools the next time you mosey into town? Well, friend, here on the next 16 pages is a way station you won't want to miss on the ride in. We've corralled eight groups of portable and stationary woodworking power tools, and lassoed all the up-to-date information you'll need to make a smart purchase. With each tool group, you'll find a comprehensive chart, along with an explanation of the most important features.

What about tools not included? We intend to round up those rascals in future issues of *WOOD*® magazine. In case you have questions about a particular manufacturer's tools, such as where to find a local dealer, we've included a listing of manufacturer addresses and phone numbers on *page 86*.

Print this article

Makita 6093DW

Important buying points

- ***Volts.*** Although units with high-voltage have more driving torque, the 7.2-volt units will help you accomplish most woodworking tasks. Keep in mind that the 9.6- and 12-volt models have more power storage, so they'll go longer between charges.
- ***No-load speeds.*** All of the cordless drills in the chart have low gearing (600 rpm and lower) for driving screws. But if you need a tool for drilling, look for a model that has high gearing, too (900 rpm and higher).
- ***Clutch.*** Higher-priced cordless drills have clutches that slip at predetermined torque levels, preventing you from burying screws too deeply in the workpiece or snapping off screwheads.
- ***Chuck.*** Today's keyless chucks work like a charm. They free you from trying to keep track of a key, and the ones we've tested actually grip tighter than keyed chucks. These chucks loosen with a firm, but not Herculean, twist of your hand.
- ***Standard equipment.*** When selecting a unit, note that some models include an extra battery as standard equipment. With a second battery on hand, you don't have to be concerned about running out of juice, providing you keep your spare charged up. Purchased separately, batteries cost $30–$50 each.

The Panasonic and Hitachi models earned buy recommendations in our review of cordless drills in the April 1991 issue of *WOOD* magazine.

ROUNDUP

CORDLESS DRILLS

These workhorses do it all: drill holes, drive screws, and turn bolts, just for starters. And, they do it anywhere, without a cord to get in your way.

25 HARD-DRIVING CORDLESS DRILLS

MANUFACTURER	MODEL	VOLTS	BATTERY			CLUTCH (Y) YES (N) NO	KEYLESS (1) (Y) YES (N) NO	CHUCK		LENGTH (4) (INCHES)	WARRANTY		WEIGHT (LBS.)	COUNTRY OF ASSEMBLY (6)	LIST PRICE	SELLING PRICE (7)
			CHARGE TIME (MINUTES)	REMOVABLE (Y) YES (N) NO	NO-LOAD SPEEDS (RPM)			KEY LOCATION (2)	STANDARD EQUIPMENT (3)		DRILL (5)	BATTERY				
AEG	ABSE10S	7.2	60	Y	0-280, 0-770	Y	N	BH	CC	8	1 yr.	1 yr.	2.65	G	$269	$160
	ABSE15S	12	60	Y	0-370, 0-1100	Y	N	BH	CC, CW	8	1 yr.	1 yr.	3.5	G	389	230
BLACK & DECKER	CD2000	6	180	N	225, 550	N	N	BH	–	5	2 yrs.	2 yrs.	2	U	80	50
	CD4000	7.2	180	N	0-600	N	N	BH	–	5 1/4	2 yrs.	2 yrs.	2.2	U	122	70
BOSCH	3051VSRK	9.6	60	Y	0-400, 0-900	Y	Y*	–	CC, EB	7 1/4	1 yr.	1 yr.	4.5	U	266	150
DeWALT	DW942R	7.2	60	Y	0-300, 0-600	N	N	TB	–	6 1/2	1 yr.	1 yr.	3.5	U	177	130
	DW944K	9.6	60	Y	0-350, 0-1200	Y	Y	–	CC	8	1 yr.	1 yr.	4	U	264	170
HITACHI	D10DFK	9.6	60	Y	0-400, 0-1100	Y	Y	–	CC	4 1/2	1 yr.	90 days	3.7	J	244	180
MAKITA	6070DW	7.2	180	N	0-600	N	N	SB	–	5	1 yr.	1 yr.	2.2	U	124	80
	6071DWK	7.2	60	Y	0-600	N	N	SB	CC	5	1 yr.	1 yr.	2.5	J	194	125
	6093DW	9.6	60	Y	0-400, 0-1100	Y	N*	SB	CC	6 3/4	1 yr.	1 yr.	3.8	U	261	140
MILWAUKEE	0399-1	12	30	Y	0-350, 0-1000	Y	N*	SB	CC	6 1/4	*	1 yr.	3.8	U	299	170
	0395-1	9.6	30	Y	0-350, 0-1000	Y	N*	SB	CC	6 1/4	*	1 yr.	3.7	U	279	155
	0385-1	7.2	60	Y	0-600	N	N*	SB	CC	5 3/4	*	1 yr.	2.5	U	180	120
PANASONIC	EY6205BC	12	15	Y	50-350, 150-1000	Y	Y	–	CC	4 1/4	1 yr.	90 days	4.1	J	353	185
	EY6281BC	9.6	15	Y	50-350, 150-1000	Y	Y	–	CC	4 1/4	1 yr.	90 days	3.6	J	315	170
PORTER-CABLE	9853	12	60	Y	0-350, 0-1000	Y	Y*	BH	CC	7 1/8	1 yr.	1 yr.	3.9	U	270	160
RYOBI	TFD152VRK	7.2	60	Y	0-300, 0-1100	Y	Y	–	CC, EB	7 1/2	1 yr.	1 yr.	3.4	HK	261	140
	TFD172VRK	9.6	60	Y	0-400, 0-1200	Y	Y	–	CC, EB	8	1 yr.	1 yr.	3.8	HK	319	160
	TFD220VRK	12	60	Y	0-400, 0-1300	Y	Y	–	CC, EB	8	1 yr.	1 yr.	4.1	HK	353	180
SEARS	11188	7.2	60	Y	0-600	Y	N	UB	–	7	1 yr.	1 yr.	3	HK	–	85
	11189	9.6	60	Y	0-600	Y	Y	–	–	7	1 yr.	1 yr.	3.5	HK	–	125
	27139	12	60	Y	0-350, 0-1000	Y	Y	–	CC, EB	7 1/2	1 yr.	1 yr.	4.0	HK	–	184
SKIL	2503:02	7.2	60	N	300, 600	Y	N	BH	CC	6 1/4	1 yr.	1 yr.	3.5	M	98	75
	2735:04	12	60	Y	0-500, 0-1650	Y	Y*	BH	CC, EB	6 3/4	1 yr.	1 yr.	4	U	236	140

NOTES:

1. (*) Same models available with keyed chucks and keyless chucks.
2. (BH) Bottom of handle
   (SB) Side of body
   (TB) Top of body
   (UB) Under body
3. In addition to battery and charger:
   (CC) Carrying case
   (CW) Clip-on worklight
   (EB) Extra battery
4. From tip of chuck to trigger switch.
5. *Milwaukee power tools are warranted for life against defective workmanship or materials. Repairs due to abuse, normal wear, and accidents are not covered.
6. (G) Germany
   (HK) Hong Kong
   (J) Japan
   (M) Mexico
   (U) United States
7. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.

DRILL PRESSES

When you need to drill a splinter-free hole at a precise angle or depth, you can rely on the sharp-shooting skills of a drill press. With the right accessories, these machines also will help you cut mortises, smooth sawn edges (with a drum sander), and even shape small workpieces with the aid of some rasps.

Grizzly G1201

Important buying points

• ***Floor vs. bench models.*** Before you decide anything, narrow your choice to either a floor-standing or benchtop drill press. Some of the benchtop machines, such as the Black & Decker 9400, Sears 21310, and Skil 3380, take up little space and make sense if you work in cramped quarters.

However, many drill presses come in both forms; the floor-standing version has a longer column and heavier base. For this reason, the floor-standing models typically cost about $50 more than their benchtop cousins. We think the extra table travel you gain with a floor-standing drill-press makes this money well spent. If you use long bits, thick workpieces, or a combination of the two, a benchtop drill press may not handle the job. Remember, benchtop drill presses eat up valuable work-surface space, but can be stored if you don't mind moving them.

• ***Capacity.*** A drill press's capacity, sometimes called "swing" refers to the widest workpiece that you can drill into and reach its center. In other words, a 14" drill press will drill to the center of a 14"-wide board, meaning the machine has 7" of space between the column and spindle center.

One machine in the chart, the Delta 11-090 radial drill press, has a huge advantage in this category. The head and motor assembly of the 11-090 slides back and forth on a steel tube that gives the machine up to 32" of capacity. The table of this machine remains horizontal, and its head tilts.

• ***Speeds.*** Pay close attention to these numbers. Large Forstner bits (over 1"), circle cutters, and brad-point bits over ¾", require a drill press that goes as low as 250 rpm for drilling into hardwoods. Drilling into end grain with any bit requires low speeds. At the high end of rpm's, keep in mind that small twist bits (under 3/16" for hardwoods and under ⅜" for softwoods) work best at 3,000 rpm.

• ***Quill travel.*** The models in the chart range widely in quill travel, a measure of how far you can lower the chuck and bit. Small machines have as little as 2 inches of quill travel, and the Grizzly G-1201 shown *above* tops the chart with a full 5 inches. This stat, and the length of your drill bits, dictates how deeply you can drill into a workpiece.

• ***Country of origin.*** There's just no two ways about it: Taiwanese manufacturers *own* the drill press market. To the best of our knowledge, only the General 34-01 is still made in North America.

Most of today's Taiwanese-made drill presses look and function similarly. Our advice: Buy a machine with the features and price you need, from a source you trust.

THE HOLE STORY ON 24 DRILL PRESSES

MANUFACTURER/ IMPORTER	MODEL (1)	TYPE (2)	CAPACITY (3) (INCHES)	SPEEDS		SPINDLE			RACK AND PINION (5)	CONTINUOUS HORSEPOWER	TABLE TRAVEL (6) (INCHES)	WORK LIGHT (5)	WARRANTY		HEIGHT (INCHES)	WEIGHT (LBS.)	COUNTRY OF ORIGIN (7)	LIST PRICE	SELLING PRICE (8)
				NUMBER	LOW (RPM)	HIGH (RPM)	QUILL TRAVEL (INCHES)	DEPTH STOP (4)	CHUCK CAPACITY					DRILL PRESS	MOTOR					
AMT	4562	F*	12 1/2	12	250	3100	3 1/4	D	5/8	Y	3/4	25 3/4	Y	10 yrs.	1 yr.	64	135	T	$270	$245*
BELSAW	MC-17FDP	F*	17	12	250	3000	4 5/8	D	5/8	Y	3/4	25 3/4	Y	1 yr.	90 days	65 1/2	229	T	445	295*
BLACK & DECKER	9400	B	8 3/4	5	620	3100	2	TR	1/2	N	1/4	7	N	2 yrs.	2 yrs.	23 3/4	48	T	251	155
BRIDGEWOOD	BW-1412B	B	14	5	460	2420	3 3/8	D	1/2	Y	1/2	17 1/2	Y	1 yr.	1 yr.	40	140	T	211	199
	BW-1758F	F	16 1/2	12	250	3000	3 3/8	D	5/8	Y	3/4	29 1/8	Y	1 yr.	1 yr.	66	180	T	373	339
DELTA	14-040	B	14	5	460	2500	3 1/3	D	1/2	Y	1/2	22	*	2 yrs.	2 yrs.	39	145	T	360	340
	11-990	B	12	5	620	3100	2 3/8	D	1/2	Y	1/3	11 1/2	*	2 yrs.	2 yrs.	34	72	T	247	235
	11-090*	B	32	5	620	3100	3 5/8	D	1/2	Y	1/3	10 3/4	*	2 yrs.	2 yrs.	32 1/2	120	T	366	345
	17-900	F	16 1/2	12	250	3000	3 1/3	D	1/2	Y	3/4	27	*	2 yrs.	2 yrs.	66	194	T	441	409
GENERAL	34-01	F	15	6	460	4910	4 1/2	TR	1/2	*	1/2	39 1/2	*	2 yrs.	1 yr.	66 1/2	185	C	749	650
GRIZZLY	G1200	F*	14	12	250	3100	3	D	5/8	Y	1/2	29	Y	90 days	1 yr.	66	200	T	–	255*
	G1201	F	18	9	150	2470	5	D	5/8	Y	3/4	25	Y	90 days	1 yr.	68	295	T	–	435*
JET	JDP-14JF	F*	14	5	460	2500	3 3/8	TR	1/2	Y	1/2	29	Y	2 yrs.	2 yrs.	66	178	T	372	330
	JDP-17MF	F*	16 1/2	16	200	3630	4 3/8	TR	5/8	Y	3/4	29	Y	2 yrs.	2 yrs.	66	216	T	419	365
PENN STATE	DPF	F*	13 3/4	5	600	3720	3 1/8	D	5/8	Y	1/2	30 3/4	Y	1 yr.	1 yr.	62 1/2	128	T	250	220*
POWERMATIC	1140F	F*	14	12	250	3100	3 5/16	D	5/8	Y	3/4	27	N	1 yr.	1 yr.	66	170	T	412	370
RELIANT	DD55	F	17	12	340	2800	3 1/8	D	5/8	Y	3/4	30 1/2	N	1 yr.	1 yr.	64	165	T	–	300*
SEARS	21310	B	8	3	620	3100	2	D	1/2	N	1/6	6 1/4	N	1 yr.	1 yr.	23 1/2	42	T	130	109
	21309	B	10	4	480	3000	2 3/8	D	1/2	Y	1/4	9 5/8	N	1 yr.	1 yr.	28 1/4	64	T	–	200
	21315	F	15	12	250	3100	3 1/4	D	5/8	Y	1/2	25 3/8	Y	1 yr.	1 yr.	64	132	T	–	300
	21317	F	17	16	200	3630	3 1/4	D	3/4	Y	3/4	25 5/8	Y	1 yr.	1 yr.	68	335	T	400	350
SKIL	3380	B	8	5	620	3100	2	TR	1/2	Y	1/4	7	N	2 yrs.	2 yrs.	23 1/2	48 1/2	T	200	140
TRANSPOWER	R16	F	14	16	460	2500	3 1/2	D	5/8	Y	1/2	29	Y	2 yrs.	1 yr.	66	178	T	–	195*
	R18	F	18	16	200	3600	3 1/2	D	5/8	Y	3/4	29	Y	2 yrs.	1 yr.	66	230	T	–	265*

NOTES:

1. (*) Head tilts, swivels and moves in and out. Table doesn't tilt.
2. (B) Bench
   (F) Floor
   (*) Similar machine available as benchtop model.
3. Machine will drill to the center of a board of this width.
4. (D) Dial
   (TR) Threaded rod
5. (Y) Yes
   (N) No
   (*) Optional
6. Maximum distance table lowers from bottom of chuck.
7. (C) Canada
   (T) Taiwan
8. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.
   (*) Plus shipping

JOINTERS

Jointers help you do two things better than you can with any other machine: straighten edges and true the surfaces of warped lumber. That's why many woodworkers take a workpiece to their jointer before they touch it with any other tool.

Sears 23221

Important buying points

• ***Knife length.*** Manufacturers classify jointers by knife length because it's the best overall indicator of how big and powerful you can expect a jointer to be. For example, most 4″ and 5″ jointers fall into the group of benchtop machines, weighing under 50 pounds. Jointers with 6″ knives do most tasks with ease, vary in weight greatly, and make up most of today's jointer market.

We recommend that you focus your search on 6″ machines unless you need a jointer for flattening rough-sawn lumber. In that case, you'll need the capacity, power, and durability that comes with an 8″ machine.

• ***Bed length.*** Longer workpieces require longer beds for safe, comfortable, and accurate operation. (A jointer's bed length equals the overall length of the infeed and outfeed tables.) To joint stock up to 6′ long, your jointer should have a 40″-or-longer bed. Stock about 8′ long requires at least a 60″ bed.

• ***Cuts per minute.*** Generally speaking, the higher number of cuts that a machine makes, the smoother the cut. That's because each knife removes a small arc of material every time it rotates across the surface; the closer together the arcs become, the less you notice them. However, this only applies if you adjust the knives to the exact same height.

The Ryobi JP-155 has some limitations because of its small size. However, at its top speed of 32,000 cuts per minute, this jointer produces smooth, tearout-free cuts on most any wood.

• ***Motor type.*** If you don't like to wear hearing protection, don't buy one of the machines with a universal motor. Jointers with universal motors make a loud, shrill noise that becomes even more intense if you connect the machine to a dust collector.

On average, universal motors don't last as long as induction motors and have brushes that need replacement after extended use. If either type of motor fails, you'll be able to replace most induction motors yourself, but replacing a universal motor usually means a trip to a service center.

• ***Fence.*** For more control and safety when edge-jointing, we feel fences should be at least 3″ high (4″ or more is even better). You may be able to overcome the problems that come with a short fence by adding an auxiliary wooden fence to the machine.

If you work with small, figured workpieces, you'll appreciate the smooth surfaces you get from the Ryobi JP-155.

26 JOINTERS THAT GIVE YOU AN EDGE

MANUFACTURER/ IMPORTER	MODEL	KNIFE LENGTH (INCHES)	BED LENGTH (INCHES)	CUTS PER MINUTE	MAXIMUM CUTTING DEPTH (INCHES)	MOTOR			KNIFE HEIGHT ADJUSTMENT SCREWS (2)	MATERIALS (3)		FENCE		ADJUSTMENTS			WARRANTY			WEIGHT (LBS.)	LIST PRICE	SELLING PRICE (6)
						TYPE (1)	CONTINUOUS HORSEPOWER	VOLTS		FENCE	TABLE	HEIGHT (INCHES)	LENGTH (INCHES)	OUTFEED TABLE DEPTH (2)	OUTFEED TABLE LEVELING (2)	INFEED TABLE LEVELING (2)	STANDARD EQUIPMENT (4)	JOINTER	MOTOR	COUNTRY OF ORIGIN (5)			
AMT	4800	5	26 3/4	16,000	1/8	U	5.6 amps.	110	N	SP	CI	3 1/8	24	N	Y	Y	PB	10 yrs.	1 yr.	T/U	45	$ 220	$ 189*
	4123	6	42	–	1/8	Motor Not Included			Y	CI	CI	4	28	Y	Y	Y	S	10 yrs.	–	T	202	459	389*
BRIDGEWOOD	BW-6J	6	45 1/2	13,500	1/2	I	1	110/220	N	CI	CI	4	28	Y	Y	Y	S	1 yr.	1 yr.	T	193	–	330*
	BW-8J	8	66	13,500	1/2	I	1 1/2	110/220	N	CI	CI	4	36	Y	Y	Y	S	1 yr.	1 yr.	T/U	446	–	895*
DELTA	37-280	6	35 1/2	12,900	3/8	I	3/4	110	N	EA	CI	3 3/4	24	N	Y	N	PB, S	2 yrs.	2 yrs.	T	143	438	370
	37-154	6	55 1/2	16,500	1/2	I	3/4	110/220	Y	CI	CI	5	36	Y	Y	Y	PB, S	2 yrs.	2 yrs.	T/U	265	1,367	1,050
	37-350 & 52-671	8	76 1/2	16,500	5/8	I	1 1/2	110/220	Y	CI	CI	5	36	Y	Y	Y	PB, S	2 yrs.	2 yrs.	T/U	335	1,913	1,500
GENERAL	1180-1	6	42 1/2	12,600	1/2	I	3/4	110/220	N	CI	CI	4	35	Y	Y	Y	S	2 yrs.	1 yr.	C	226	950	795
GRIZZLY	G1182	6	47	15,000	1/2	I	1	110/220	N	CI	CI	4	29	Y	Y	Y	S	90 days	1 yr.	T	240	–	376*
	G1018	8	65	15,000	1/2	I	1 1/2	220	N	CI	CI	4	36	Y	Y	Y	S	90 days	1 yr.	T	445	–	695*
JET	JJ-6CS	6	44 1/2	13,500	1/2	I	3/4	110/220	N	CI	CI	4	28	Y	Y	Y	S	2 yrs.	2 yrs.	T	258	539	445
	JJ-8CS	8	66 1/2	13,500	1/2	I	2	220	N	CI	CI	4	38 1/2	Y	Y	Y	S	2 yrs.	2 yrs.	T	398	1,279	1,050
LOBO	JT-1007	7	42 1/2	13,500	1/2	I	1	110/220	N	CI	CI	4	28	Y	Y	Y	S	1 yr.	1 yr.	T	194	–	309*
	JT-1008	8	66	13,500	1/2	I	2	220	N	CI	CI	4	38	Y	Y	Y	S	1 yr.	1 yr.	T	460	–	639*
POWERMATIC	53	6	42	13,500	1/2	I	3/4	110/220	Y	EA	CI	3 3/4	28	Y	Y	Y	PB, S	1 yr.	1 yr.	T	187	634	450
	50	6	48	21,000	1/2	I	3/4	110/220	Y	CI	CI	4	34 1/2	Y	Y	Y	S	1 yr.	1 yr.	U	290	1,444	1,300
	60	8	64	21,000	1/2	I	1 1/2	115/230	Y	CI	CI	4	34 1/2	Y	Y	Y	S	1 yr.	1 yr.	U	450	2,056	1,550*
RELIANT	DD38	6	43	13,500	1/2	I	3/4	110/220	N	CI	CI	4	35 3/4	Y	Y	Y	PB, S	1 yr.	1 yr.	T	140	–	370*
	DD40	8	66	13,500	5/8	I	1 1/2	220	N	CI	CI	4	36	Y	Y	Y	PB, S	1 yr.	1 yr.	T	315	–	695*
RYOBI	JP-155	6	28 1/2	16,000-32,000	3/32	U	10.5 amps.	110	Y	CA	CA/SS	2 5/8	28	N	N	N	PB	1 yr.	1 yr.	J	27	623	330
SEARS	23622	4	21 3/8	16,000	1/8	U	5.6 amps.	110	N	SP	CI	2 3/4	19 1/2	N	N	Y	PB	1 yr.	1 yr.	T	39	–	160
	23632	5	26 1/2	16,000	1/8	U	5.6 amps.	110	N	SP	CI	3 3/4	24	N	Y	Y	PB	1 yr.	1 yr.	T	45	–	200
	23221	6	36	12,900	1/8	I	1	110	Y	CI	CI	3 1/4	33	N	N	Y	PB, S	1 yr.	1 yr.	T	150	449	400
SHOPSMITH	555483 505995	4	28	12,000	3/8	I	1/2	110	Y	CI	CI	3	21 3/4	N	N	Y	PB, S	1 yr.	1 yr.	U	90	–	578*
TRANSPOWER	650	6	46	13,500	1/2	I	1	110/220	N	CI	CI	4	28	Y	Y	Y	S	2 yrs.	1 yr.	T	198	–	295*
	850	8	67	13,500	1/2	I	1 1/2	110/220	N	CI	CI	4	36	Y	Y	Y	S	2 yrs.	1 yr.	T	460	–	670*

NOTES:

1. (I) Induction
   (U) Universal
2. (Y) Yes
   (N) No
3. (CA) Cast aluminum
   (CI) Cast iron
   (EA) Extruded aluminum
   (SP) Steel plate
   (SS) Stainless steel
4. (PB) Push block
   (S) Stand
5. (C) Canada
   (J) Japan
   (T) Taiwan
   (T/U) Taiwanese jointer with U.S. motor
   (U) United States
6. Selling prices based on catalogs, advertisements, and dealer inquiries at time of chart's production.
   (*) Plus shipping

PORTABLE BELT SANDERS

Designed primarily to remove lots of stock quickly and flatten surfaces, a portable belt sander gets a real workout in most woodworking shops. Some models also have a variety of accessories that help you put these dynamos to even more uses.

Elu 4024

Important buying points

• ***Belt size and sanding area.*** The belt sanders in the chart at *right* have belts varying in size from 3×18″ to 4×24″. Simply put, the 4″-wide belts help you do more sanding in a shorter period of time than the 3″-wide belts. And, the longer belts last longer between changes.

When you buy 3″-wide belts, you may notice only a small price difference between the 18″, 21″, and 24″ sizes. So, the longer the belt, the more abrasive you get for your dollar. For example, one retailer charges the following for 25 belts in these sizes: 18″, $19.50; 21″, $20; and 24″, $21.

But, belt size doesn't tell the whole story. You also need to consider how much of the belt remains in contact with the workpiece (see "sanding area" in the chart). Some machines have larger sanding areas than others that hold belts of the same size.

• ***Belt Speed.*** The faster a machine's belt moves, the quicker it removes stock. But, sometimes it helps to slow things down a little, and that's why some models have two speeds or variable speed. At slower speeds you can avoid burning (a problem with fine-grit belts), and you'll have greater control over stock removal.

• ***Motor position.*** A few years ago, sanders with transverse design were the only game in town. These models have motors mounted across the width of the machine. Nowadays, several sanders have inline design, meaning the motor is in line with the length of the machine.

Generally, the transverse machines are easier to hold because they feature more comfortable handles. The inline machines have a lower center of gravity, making them easier to control and less prone to tipping.

• ***Accessories.*** If you frequently use your belt sander to flatten large surfaces, you'll appreciate the availability of a sanding frame. These optional accessories mount to the sander near its base and help you sand a gouge-free surface by preventing the machine from tipping.

Some models also have optional devices that allow you to secure them to a bench, either horizontally on their backs or vertically. This way, you can use the machine for sanding small, irregularly shaped workpieces, or for sharpening tools.

• ***Weight.*** All of the sanders with 4″-wide belts weigh over 10 pounds, and we suggest you buy one of these machines only if you plan to use it on large, horizontal work surfaces such as tabletops. If you need to use your machine on vertical surfaces, you should opt for one of the lighter units. Your arms will thank you!

The Elu 4024 was a top performer in our review of portable belt sanders in the August 1989 issue of *WOOD®*.

THE NITTY-GRITTY ON 22 PORTABLE BELT SANDERS

MANUFACTURER/ IMPORTER	MODEL	BELT SIZE (WxL) (INCHES)	SANDING AREA (WxL) (INCHES)	BELT SPEED (FEET PER MINUTE)	MOTOR POSITION (1)	AMPS	BEARINGS (2)	DUST COLLECTION (Y) YES (N) NO	STANDARD ACCESSORIES (3)	OPTIONAL ACCESSORIES (3)	SANDS FLUSH (Y) YES (N) NO	CORD LENGTH (FEET)	WARRANTY (4)	WEIGHT (LBS.)	COUNTRY OF ASSEMBLY (5)	LIST PRICE	SELLING PRICE (6)
AEG	HBSE75S	3 x 21	3 x 5 1/4	490-1040	I	7.8	B	Y	B, DB, HS	F, SF, VA	Y	12	1 yr.	8.4	G	$299	$172
BLACK & DECKER	7498	3 x 21	3 x 5 1/2	600-950	T	5.2	B	Y	B, DB	HS, SF	Y	6	2 yrs.	7.5	G	170	110
	2732	3 x 24	3 x 4 3/4	1180, 1475	T	8.7	B, R	Y	B, DB	–	Y	8	1 yr.	9.7	J	345	232
BOSCH	3270D	3 x 21	3 x 6 3/8	1080	I	5	B, R, S	Y	B, DB	CC, F, HS, SF, VA	Y	8	1 yr.	7.9	SW	260	145
	1273DVS	4 x 24	4 x 6	1150-1550	T	10.5	B, R, S	Y	B, DB	CC, F, HS, SF, VA	Y	8	1 yr.	14.8	U	370	200
ELU	4024	3 x 21	3 x 5 1/4	475-1100	T	5.2	B, R	Y	B, DB	F, HS, SF, VS	N	10	1 yr.	6.2	SW	327	210
FREUD	LC75	3 x 21	3 x 5 1/4	1475	I	9.6	B, R, S	Y	B, DB	–	Y	8	1 yr.	10.75	S	306	175
	LC110	4 x 24	4 x 6 3/4	1475	I	9.6	B, R, S	Y	B, DB	–	Y	8	1 yr.	11.62	S	327	180
HITACHI	SB75	3 x 21	3 x 4 3/4	1180, 1475	T	8.7	B	Y	B, DB	HS	Y	8 1/2	1 yr.	9.7	J	265	155
	SB10T	4 x 24	4 x 6 1/2	1150, 1380	T	8.7	B	Y	B, DB	HS, SF	Y	8 1/2	1 yr.	11.7	J	313	185
MAKITA	9924DB	3 x 24	3 x 5 3/8	1300	T	7.8	B, R	Y	–	B, DB, HS	Y	16	1 yr.	10.5	J	299	160
	9900B	3 x 21	3 x 5 3/8	1180	T	7.8	B, R	Y	B, DB	HS	Y	16	1 yr.	10	J	283	150
MILWAUKEE	5925	3 x 24	3 x 6 1/2	1400	T	10	B, R, S	Y	B, DB	–	N	8	*	13.75	U	419	235
	5936	4 x 24	4 x 6 1/2	1400	T	10	B, R, S	Y	B, DB	–	Y	8	*	14.5	U	419	245
PORTER-CABLE	352	3 x 21	3 x 5	1300	T	7	B, R	Y	B, DB	CC	Y	7	1 yr.	10.75	U	265	154
	362	4 x 24	4 x 5 3/8	1550	T	10.5	B, R	Y	B, DB	CC	Y	7	1 yr.	13.75	U	350	205
RYOBI	BE-321	3 x 21	3 x 5 1/4	775-1148	I	5.4	B, S	Y	B, DB	F, HS, SF	Y	8	1 yr.	7.9	J/U	281	150
	B-7100	3 x 24	3 x 5 1/4	1500	T	8.4	B, S	Y	DB	–	Y	8	1 yr.	9.7	U	284	160
SEARS	11715	3 x 21	3 x 4 3/4	1300	T	7.5	B, S	Y	B, DB	CC, VA, VS	Y	6	1 yr.	9.2	U	–	85
	11792	4 x 21	4 x 4 3/4	1300	T	7.5	B, R	Y	B, DB	CC, VA, VS	Y	10	1 yr.	10.25	U	–	105
SKIL	7313	3 x 18	3 x 5	700	T	4.5	B, R	Y	B, DB	HS, SF	Y	6	1 yr.	5.25	U	84	80
	7621	3 x 21	3 x 5 3/8	775-1150	I	6	B, R	Y	B, DB	HS	Y	8	1 yr.	8	J	235	160

NOTES:

1. (I) Inline
   (T) Transverse
2. (B) Ball
   (R) Roller
   (S) Sleeve
3. (B) Belt
   (CC) Carrying case
   (DB) Dust bag
   (F) Fence
   (HS) Horizontal support
   (SF) Sanding frame
   (VA) Vacuum attachment
   (VS) Vertical support
4. *Milwaukee power tools are warranted for life against defective workmanship or materials. Repairs due to abuse, normal wear, and accidents are not covered.
5. (G) Germany
   (J) Japan
   (J/U) Japan or United States at discretion of manufacturer
   (S) Spain
   (SW) Switzerland
   (U) United States
6. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.

ROUTERS

Whether shopping for your first router, or looking to upgrade to a more powerful unit, you'll be pleasantly surprised with the wide variety of routers on today's market.

Ryobi RE-600

These routers distinguished themselves in our February 1990 test. *From left:* the fixed-base Bosch 1606 (as shown with D-handle) or 1604 (with two knob handles), and these plunge routers: Elu 3304, AEG OFS50, and Elu 3338.

Important buying points

• ***Depth adjustment.*** Basically, routers come in two types. Plunge models have spring-loaded housings that lower on two posts when you push down on their handles. Fixed-base versions lower via ring, rack-and-pinion, or spiral mechanisms.

In the past few years, plunge routers have taken over a large share of the market. These immigrants from Europe make for quick and easy cuts into the middle of a surface, such as stopped flutes or keyhole slots.

• ***Power.*** For most of us, routers that draw 6.5 to 9 amps have plenty of power for most jobs. Consider one of the higher-amperage models if you make cuts with bits over 1½" in diameter in tough materials, such as dense hardwoods or solid surface counter materials such as Corian or Avonite.

Remember, extra power has a price: added weight. The more-powerful routers tip the scales at over 10 pounds, and that's more weight than many people can, or want to, handle. For this reason, many woodworkers own one light router and one heavy router. The heaviest models perform well in router tables, where weight makes little difference.

• ***Variable speed.*** Most router bits make the best cuts at the highest speeds, but large bits, such as panel raisers, benefit from slower speeds (one-third to one-half of peak speed). If you use bits over 1½" in diameter, buy a router with variable speed.

• ***Collet capacity.*** If possible, buy a router that accepts bits with both ½" and ¼" shanks. The ½" shanks are less likely to bend in stressful situations, so these bits will produce cleaner cuts over a longer life span.

• ***Accessories.*** As you can see in the chart, routers have a bevy of available accessories. The most useful ones: edge guides, guide bushings and adapters, guides for cutting circles and curves, and vacuum attachments.

FINDING THE RIGHT ROUT: SPECS ON 25 POPULAR MODELS

MANUFACTURER	MODEL	DEPTH ADJUSTMENT (1)	MAXIMUM PLUNGE DEPTH (INCHES)	ELECTRONIC VARIABLE SPEED (Y) YES (N) NO (2)	MOTOR		COLLET CAPACITIES (INCHES)	SWITCH TYPE (3)	PLUNGE-LOCK TYPE (4)	HANDLE TYPE (5)	BASE		ACCESSORIES (6)		WARRANTY (7)	HEIGHT (INCHES)	WEIGHT (LBS.)	COUNTRY OF ASSEMBLY (8)	LIST PRICE	SELLING PRICE (9)
					NO-LOAD RPM	AMPS					OUTSIDE DIAMETER (INCHES)	HOLE DIAMETER (INCHES)	STANDARD	OPTIONAL						
AEG	OFS50	P	1 15/16	N	25,000	6.25	1/4	TR	M	K	6 1/8	1 1/2	EG, HI	CCG, MC, VA	1 yr.	8 7/8	5 1/2	G	$299	$240
BLACK & DECKER	7612	RP	–	N	25,000	9	1/4	TR	–	A	6	1 1/4	CC	CG, GB, LG, P	2 yrs.	7 3/4	8	U	135	89
	7615	P	2	N	25,000	9	1/4	TR	M	A	6	1 1/4	–	CG, GB, LG, P	2 yrs.	7 3/4	8 1/4	U	133	89
BOSCH	1604 or 1606	S	–	N	25,000	10	1/4, 3/8, 1/2	T or TR	–	K or D	6	1 3/4	–	CC, EG, EJ, GB, MC, VA	1 yr.	8	7 3/4	U	236	135
	1613EVS	P	2	Y*	12,000-22,000	11.3	1/4, 3/8, 1/2	TR	S	A	6 1/2	1 5/8	–	CC, CCG, EG, EJ, GB, MC, VA	1 yr.	11 1/2	10	U	320	250
	1615EVS	P	3	Y*	12,000-19,000	15	1/4, 3/8, 1/2	TR	S	A	6 1/2	2 5/8	HI	CC, CCG, EG, EJ, GB, MC, VA	1 yr.	13 3/4	12 1/4	U	460	270
DeWALT	DW610	RP	–	N	25,000	9	1/4, 1/2	T	–	K	6	1 1/4	–	CG, EG	1 yr.	7 1/2	7 1/4	U	250	179
ELU	3304	P	1 15/16	Y*	8,000-24,000	6.5	1/4	S	T	K/A	5 11/16	2 1/2	EG, HI	CG, GB, RG, VA	1 yr.	9 9/16	6	SW	292	200
	3338	P	2 7/16	Y*	8,000-20,000	12	1/4, 3/8, 1/2	S	S	K	6 11/16	2 5/8	EG, HI	CG, GB, RG, VA	1 yr.	11 1/4	11 1/4	SW	475	260
FREUD	FT2000E	P	2 3/4	Y*	8,000-22,000	15	1/4, 1/2	S	S	A	6 3/4	2 1/2	–	EG, GB	1 yr.	12 3/4	12 1/2	S	410	215
HITACHI	M8V	P	2	Y*	10,000-25,000	7.3	1/4	S	M	A	5 3/4	2	–	EG, GB, HI, VA	1 yr.	10	6 2/3	J	280	170
	M12V	P	2 7/16	Y*	8,000-20,000	15	1/4, 3/8, 1/2	S	M	A	7	2	EG, HI	CCG, GB, VA	1 yr.	11 13/16	11 3/4	J	449	250
MAKITA	3620	P	1 3/8	N	24,000	7.8	1/4	TR	M	K	5 5/8	2 3/4	CC	CCG, EG, HI	1 yr.	8 5/16	5 3/4	J	196	120
	3601B	R	–	N	23,000	8.5	1/4, 1/2	TR	–	D	6 1/4	1 1/2	–	CCG, EG, HI	1 yr.	7 1/2	8	J	261	150
	3612B	P	2 1/2	N	23,000	14	1/4, 1/2	T	M	A	6 1/4	2 3/4	–	CCG, EG, HI	1 yr.	11 5/16	12 3/4	J	347	205
MILWAUKEE	5660	R	–	N	24,500	10	1/4, 3/8, 1/2	S	–	A	6	1 1/4	–	EG, VA	*	8	8 1/2	U	325	215
PORTER-CABLE	100	S	–	N	22,000	6.5	1/4	T	–	K	5 3/4	1 3/16	–	CC, CCG, CG, EG, GB	1 yr.	7	6 3/4	U	170	120
	690	S	–	N	23,000	10	1/4, 3/8, 1/2	T	–	K or D	5 3/4	1 3/16	–	CC, CCG, CG, EG, EJ, GB	1 yr.	8	8	U	245	145
	693	P	2 1/2	N	23,000	10	1/4, 3/8, 1/2	T	S	K	5 3/4	1 3/16	–	CC, CCG, CG, EG, EJ, GB	1 yr.	10 1/2	11 1/2	U	285	180
RYOBI	R-150K	P	2	N	24,000	6.5	1/4	R	M	K	5 3/4	2	CC, EG	GB	1 yr.	9	6 1/4	U	207	120
	RE-600	P	2 3/8	Y*	10,000-22,000	15	1/4, 3/8, 1/2	T	M	K	6 1/2	1 15/16	EG	GB	1 yr.	12 1/4	13 1/2	J	453	230
SEARS	17473	S	1 1/2	Y	15,000-25,000	9	1/4	TR	–	A	6	1 1/2	–	LG, P, RG	1 yr.	10 1/2	8 1/4	U	–	109
	27506	P	2 1/2	Y	10,000-25,000	15	1/4, 3/8, 1/2	T	M	A	6 1/2	1 15/16	CCG, EG, GB	LG	1 yr.	12 1/4	13 1/2	U	–	244
SKIL	1835	P	2	N	25,000	9	1/4	R	S	A	6	2 3/4	DS, GA	EG, GB, LG	1 yr.	9 1/4	7	U	116	75
	1875	P	2 1/2	Y	10,000-23,000	11.5	1/4, 1/2	TR	S	D	6 1/2	2 3/4	DS, GA	CC, EG, GB, VA	1 yr.	10 7/8	9	U	319	280

NOTES:

1. (P) Plunge
   (R) Ring
   (RP) Rack & Pinion
   (S) Spiral
2. *Fixed-speed version also available.
3. (R) Rocker
   (S) Slide
   (T) Toggle
   (TR) Trigger
4. (M) Manual
   (S) Self-locking lever
   (T) Twist knob
5. (A) Arm
   (D) D-handle
   (K) Knob
6. (CC) Carrying case
   (CCG) Curve-cutting guide
   (CG) Circle guide
   (DS) Dust shield
   (EG) Edge guide
   (EJ) Edge-joining system
   (GA) Guide bushing adapter
   (GB) Guide bushings
   (HI) Hole insert
   (LG) Letter guide
   (MC) Metric collets
   (P) Pantograph
   (RG) Right-angle guide
   (VA) Vacuum attachment
7. *Milwaukee power tools are warranted for life against defective workmanship or materials. Repairs due to abuse, normal wear, and accidents are not covered.
8. (G) Germany
   (J) Japan
   (S) Spain
   (SW) Switzerland
   (U) United States
9. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.

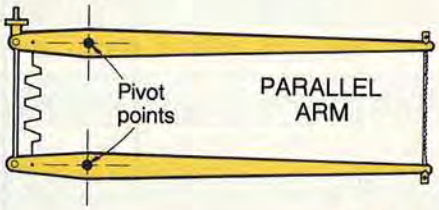
SCROLLSAWS

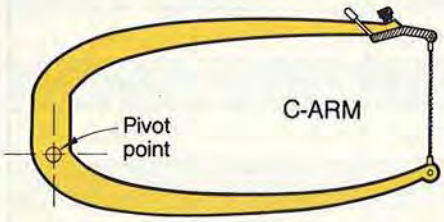
If you can trace a line, you'll find happiness and success with a scrollsaw. When it comes to user safety, making tight cuts, and just plain fun, these scrollsaws simply have no equal among workshop power saws.

RBI 216VS with optional blade holder.

Important buying points

• ***Arm style.*** Scrollsaws with parallel arms, such as the machine at *right*, dominate today's market. These saws cut smoothly and accurately while putting minimum stress on blades. Less stress means your blades will last longer.





The next-best-selling saws feature C-arm design, such as the Delta 40-601, Grizzly G1060, and Sears 23640. These machines cut a slightly wider kerf with rougher edges, but their aggressive action helps you cut faster.

• ***Throat depth.*** Several manufacturers offer scrollsaws similar in most respects, but with various throat depths. Our advice: Buy a saw that's big enough to handle your largest projects, but no bigger. Every extra inch of throat depth adds considerably to the cost of the machine.

• ***Strokes per minute (spm).*** Higher-quality saws offer variable speed (0–2,000 spm, for example), or several set speeds (such as 400, 800, or 1,400 spm). Although most woodworking applications only require the highest possible speeds, you may find slower speeds handy for cutting thin veneers or materials other than wood. Scrollsaws help you cut plastics, brass, aluminum, and even glass and stone—provided you have a means to reduce the speed and use the right blade. Beginning scrollers enjoy greater control over cuts at slower speeds.

• ***Speed control.*** You can turn down a scrollsaw's speed in one of two ways: electronically by dial, or by changing belts. We prefer electronic speed controls, including the frequency regulators on two of the Hegner saws.

• ***Accessories.*** Note that some machines come with stands—a valuable accessory. If you have to buy the manufacturers' stand, it may cost as much as $100.

• ***Price.*** You'll find a great price disparity among machines with similar specifications. To appreciate the differences, you really need to try the scrollsaws yourself. Generally, you'll discover that the more expensive machines make smoother and more controlled cuts, produce less noise and vibration, and feature higher-quality construction and motors.

If you're a serious scrollsawer, take a look at the scrollsaws made by RBI and Hegner. These machines rated highly in our September 1991 look at scrollsaws priced over $500.

Print this article

30 SCROLLSAWS THAT HELP YOU IN TIGHT SPOTS

MANUFACTURER/ IMPORTER	MODEL	ARM STYLE (1)	THROAT DEPTH (INCHES)	STROKE LENGTH (INCHES)	STROKES PER MINUTE	MAXIMUM CUT DEPTH (INCHES)	TABLE		BLADE LOCK STYLE (2)	SPEED CONTROL (3)	MOTOR			ARM PIVOT(S)	BEARINGS (6)	STANDARD ACCESSORIES (7)	OPTIONAL ACCESSORIES (7)	WARRANTY		WEIGHT (LBS.)	COUNTRY OF ORIGIN (8)	LIST PRICE	SELLING PRICE (9)
							SIZE (WIDTH x DEPTH) (INCHES)	BEVEL (L) LEFT (R) RIGHT (U) UP (D) DOWN			DRIVE SYSTEM (4)	TYPE (5)	AMPS		TIE ROD TO MOTOR			SCROLLSAW	MOTOR				
AMT	4671	P	23	3/4	825, 1725	2 5/8	10 x 20 1/2	45°L	S	E	D	I, TEFC	2.2	S	B	B	–	10 yrs.	1 yr.	86	T	$ 350	$ 320
BELSAW	MC-18SS	P	18	3/4	1720	2	8 3/4 x 17 1/4	30°L	S	N	D	I, TEFC	1.6	S	B	B, S	–	1 yr.	90 days	60	T	419	250
DELTA	40-150	P	15	7/8	1725	2	7 7/8 x 17	45°L	S	N	D	I, ODP	1.6	S	B	–	–	2 yrs.	2 yrs.	46	T	146	130
	40-560	P	16	7/8	850, 1790	2	11 3/4 round	45°L	S	E	D	I, ODP	1.2	S	B	B, FS	L, S	2 yrs.	2 yrs.	37	T	239	190
	40-640	P	20	7/8	400-1800	2	14 round	45°L	S	E	D	DC	1.25	S	B	B	S	2 yrs.	2 yrs.	61.5	T	410	340
	40-601	C	18	7/8	0-2000	2	16 round	30°L, 45°R, 15°U, 30°D	S	E	D	DC	1.7	B	B/R	B, S	L	2 yrs.	2 yrs.	132	U	942	700
DREMEL	1571	P	15	3/16	3450	1 5/8	8 x 9 1/2	45°L/R	F	E	D	I	1.4	S	B	–	FS	1 yr.	1 yr.	15	U	139	90
	1671	P	16	3/4	890, 1790	2	12 round	45°L	S	E	D	I	1.6	S	B	B, VA	L, S	1 yr.	1 yr.	43	T	278	180
	1695	P	16	3/4	200-2000	2	12 round	45°L	S	E	D	DC	1.3	S	B	B, VA	L, S	1 yr.	1 yr.	40	T	390	250
EXCALIBUR	EXIISD	D	19	3/4	400, 800, 1400	1 3/4	12 x 17	45°L/R	F	B	B	I, TEFC	2.3	B	B	B	L	1 yr.	90 days	70	C	735	679#
	EX24VS	P	24	3/4	0-1800	2 1/8	14 x 24	45°L, 20°R	A	E	D	DC	2.77	B	B	B, S	L	2 yrs.	90 days	110	C	1,695	1,429
GRIZZLY	G1572	P	15	3/4	1725	2	7 3/8 x 17	45°L	S	N	D	I, TEFC	1.6	B	B	B	–	90 days	1 yr.	44	T	–	100*
	G1060	C	22	3/4	1720	2	8 3/4 x 17 3/8	45°L	S	N	D	I, TEFC	2.2	B	B	B	–	90 days	1 yr.	56	T	–	150*
HEGNER	Multimax 14E	P	14 3/8	5/8	1700	2	7 x 15	45°L	S	N	D	I, TEFC	2.83	S	B	B	L, S	3 yrs.	1 yr.	30	G	499	399
	Multimax 18V	P	18	7/16, 1	400-1700	2 5/8	9 x 17	45°L, 15°R	S	FR	D	I, TEFC	2.83	S	B	B	L, S	3 yrs.	1 yr.	48	G	999	899
	Multimax 22V	P	22	7/16, 1	400-1700	2 5/8	9 x 17	45°L, 15°R	S	FR	D	I, TEFC	2.83	S	B	B	L, S	3 yrs.	1 yr.	55	G	1,199	1,099
JET	SS-24	SR	24	1 5/16	790, 990, 1250, 1600	1 3/4	15 1/2 x 15 1/2	45°L, 15°R	A	B	B	I, TEFC	7.4	S	B	B, S	–	1 yr.	1 yr.	180	T	1,070	950
	JSS-26	P	26	9/16	850, 1750	1 5/8	8 x 20 1/2	45°L	S	E	D	I, TEFC	2.3	S	B	B	S	1 yr.	1 yr.	73	T	345	310
PENN STATE	SVS	P	15	3/4	400-1800	2	8 x 17	45°L	SA	E	D	DC	1.3	S	B	B	L, S	1 yr.	1 yr.	35	T	–	170*
RBI	216VS	P	16	7/8	300-1450	2 1/8	10 1/2 round	45°L/R	SA	E	D	I, TEFC	2	S	B	B, S	L	3 yrs.	1 yr.	69	U	799	749*
	220VS	P	20	1 1/8	300-1450	2 1/8	14 1/2 round	45°L/R	SA	E	D	I, TEFC	2	B	B	B, S	L	3 yrs.	1 yr.	90	U	999	909*
	226VS	P	26	1 1/8	300-1450	2 1/8	14 1/2 round	45°L/R	SA	E	D	I, TEFC	2	B	B	B, S	L	3 yrs.	1 yr.	105	U	1,299	1,079*
RYOBI	SC-160	P	16	3/4	1725	2 1/2	10 5/8 x 14 1/2	45°L	S	N	D	I, TEFC	1.6	S	B	B	–	1 yr.	1 yr.	44	T	282	160
SAKURA	ST-14-3	P	14	1	1050, 1361, 1750	2	9 x 14 1/5	45°L, 35°R	S	B	B	I, TEFC	1.8	S	B	B, S	–	1 yr.	1 yr.	65	T	549	440
	SKS-21	P	21	1	170, 450, 790, 1140, 1370	2	14 x 22 1/2	45°L, 30°R	S	B	B	I, TEFC	2.2	S	B	B, S	–	1 yr.	1 yr.	85	T	685	570
SEARS	23611	P	16	3/4	1700	2	8 x 14	45°L	F	N	D	DC	2	S	B	–	–	1 yr.	1 yr.	33	T	150	99
	23618	P	16	7/8	500-1500	1 1/4	8 1/2 x 12 3/4	45°L	A	E	D	DC	1.2	S	B	B	–	1 yr.	1 yr.	28	T	180	160
	23640	C	20	7/8	300-2000	2	16 x 16	30°L, 45°R	A	E	D	DC	1.3	B	B	B, S	–	1 yr.	1 yr.	143	T	–	399
SHOPSMITH	555272	P	20	1 3/32	500-1200	2	23 7/8 x 16	45°L/R	S	E	B	DC	1.7	S	B	B, S	FS, L	1 yr.	1 yr.	65	U	–	649
SKIL	3330	P	16	3/4	1725	2	10 x 15	45°L	S	N	D	I, ODP	1.6	S	B	B	L, S	2 yrs.	2 yrs.	43	T	199	159

NOTES:

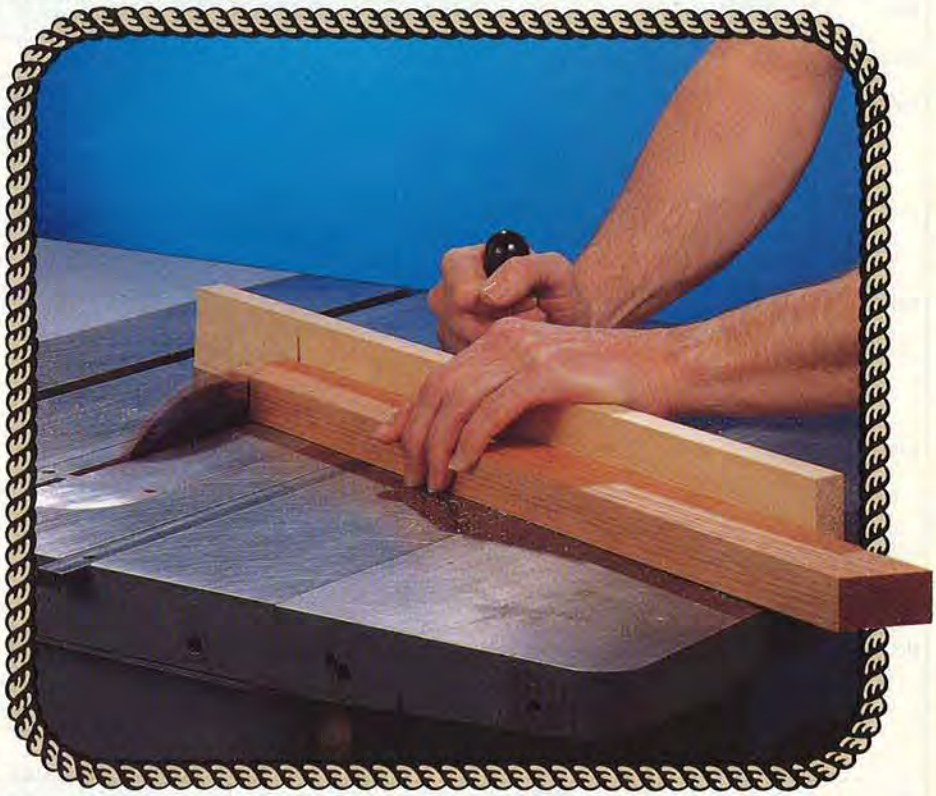
1. (C) C-arm
   (D) Double parallel link
   (P) Parallel
   (SR) Spring recoil
2. (S) Separate pivoting clamp
   (A) Attached pivoting clamp
   (F) Fixed clamp
   (SA) Bottom: separate pivoting clamp
   Top: attached pivoting clamp
3. (B) Belt
   (E) Electronic
   (FR) Frequency regulator
   (N) None
4. (B) Belt
   (D) Direct
5. (DC) Direct current
   (I, ODP) Induction, open drip-proof
   (I, TEFC) Induction, totally enclosed, fan-cooled
6. (B) Ball
   (S) Bronze sleeve
7. (B) Blower
   (FS) Flex-shaft attachment
   (L) Light
   (S) Stand
   (VA) Vacuum attachment
8. (C) Canada
   (G) Germany
   (T) Taiwan
   (U) United States
9. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.

(*) Plus shipping

(#) Same machine available with DC motor found on Excalibur EX24VS for $200 more.

TABLESAWS

No matter how much money or workshop space you can afford to devote to a tablesaw, manufacturers have a machine to meet your needs.



The Delta 34-782 Unisaw from the *WOOD*® magazine shop.

Important buying points

• ***How to choose between a stationary or benchtop model.*** If you work in tight quarters, or need to move your machine from place to place, consider one of the benchtop saws. In exchange for their small size, most of these saws have compromises in terms of power, durability, and accuracy. One exception: the Ryobi BT3000 shown *below, right.* In our tests this saw was as accurate as larger machines, more versatile than any other tablesaw we've seen, and as portable as other benchtop units. With a price tag under $600, it costs about the same or less than better-quality stationary tablesaws.

• ***Fences.*** The more you pay for a tablesaw, the more likely you'll own a machine with a rip fence that adjusts easily and stays rigidly in alignment time after time. If you want to cut sheet goods with your tablesaw, pay close attention to the rip capacity—a measure of the maximum distance between the blade and fence.

• ***Tables.*** Although cast-iron adds weight to a saw, we prefer this rugged material for tabletops. Cast-aluminum tops require occasional applications of paste wax so that workpieces slide smoothly without marring. And, we prefer solid extensions over grate types; catching your finger between the saw's fence and one of the grates can be a painful experience.

• ***Motors.*** For maximum, trouble-free life, choose a model with a totally enclosed, fan-cooled motor. Any saw with 1½-or-more *continuous* horsepower will tackle most woodworking tasks. The 3-horsepower models slice through hard, thick woods without bogging down.

The Ryobi BT3000 came up a winner in our recent review of the machine.

• ***Drive train.*** In our tests, belt-driven machines put less stress on motors and produce cleaner, more accurate cuts than direct-drive units. Belt-driven motors are also easier to replace than direct-drive motors.

TABLE MATTERS: A COMPARISON ON 24 TABLESAWS

MANUFACTURER/ IMPORTER	MODEL	TYPE (1)	CUTTING DEPTH (INCHES)		FENCE			TABLE			MOTOR				WARRANTY					
			BLADE AT 90°	BLADE AT 45° (2)	RIP CAPACITY (INCHES)	FENCE MATERIAL (3)	RAIL MATERIAL (4)	MATERIAL (5)	EXTENSION MATERIAL, TYPE (6)	SIZE WITH EXTENSIONS (INCHES) (WxD)	TYPE (7)	CONTINUOUS HORSEPOWER	VOLTS	DRIVETRAIN (8)	TABLESAW	MOTOR	WEIGHT (LBS.)	COUNTRY OF ORIGIN (9)	LIST PRICE	SELLING PRICE (10)
AMT	4572	S	3 1/8	2 1/8-R	25	EA	TS	CI	CI, G	40 1/2 x 27	I, TEFC	1 1/2	110/220	B	10 yrs.	1 yr.	231	T	$ 450	$ 445*
BRIDGEWOOD	TSC-10B	S	3 1/4	2 3/16-R	40	S/L	Al, TS	CI	CI, G	40 x 27	I, TEFC	1 1/2	110/220	B	1 yr.	1 yr.	295	T/U	1,050	689*
DELTA	34-670	S	3 1/8	2 1/8-R	24	FS	TS	CI	FS,S	38 3/8 x 22 1/4	U	15 amps.	110	B	2 yrs.	2 yrs.	130	T	450	400
	34-444	S	3 1/8	2 1/8-R	25	FS	TS	CI	FS,S	40 x 27	I, ODP	1 1/2	110/220	B	2 yrs.	2 yrs.	265	U	812	650
	36-755	S	3 1/8	2 1/8-R	25	FS	TS	CI	CI, S	40 x 27	I, TEFC	2	220	B	2 yrs.	2 yrs.	288	U	1,192	950
	34-782 Unisaw	S	3 1/8	2 1/8-R	52	EA	EA	CI	CI, S	78 1/2 x 27	I, TEFC	3	220	B	2 yrs.	2 yrs.	469	U	2,289	1,700
GENERAL	350-1	S	3 1/8	2 1/8-R	25	FS	TS	CI	CI, S	36 x 28	I, TEFC	3	220	B	2 yrs.	1 yr.	475	C	2,099	1,599
GRIZZLY	G1022	S	3 1/8	2 1/8-R	25	FS	TS	CI	CI, G	40 5/8 x 27	I, TEFC	1 1/2	110/220	B	90 days	1 yr.	230	T	–	365*
	G1023	S	3 1/8	2 1/4-R	26	S/L	TS	CI	CI, S	36 x 27	I, TEFC	3	220	B	90 days	1 yr.	420	T	–	895*
JET	JTS-10JF	S	3 1/8	2 1/8-R	30	EA	EA	CI	FS, S	40 x 27	I, TEFC	1 1/2	110/220	B	2 yrs.	2 yrs.	223	T	639	480
	JCS-10	S	3 1/8	2 1/8-R	30	EA	EA	CI	CI, S	40 x 27	I, TEFC	2	220	B	2 yrs.	2 yrs.	333	T	1,139	985
LOBO	TS0010	S	3 1/8	2 1/8-R	25	FS	TS	CI	CI, S	42 x 27	I, TEFC	1 1/2	110/220	B	1 yr.	1 yr.	245	T	–	399*
MAKITA	2711	B	3 9/16	2 1/2-R	24	FS	TS	CA	CA	42 7/8 x 28 1/8	U	12 amps.	110	D	1 yr.	1 yr.	72	J	868	480
POWERMATIC	63	S	3 1/8	2 1/8-R	26	EA	TS	CI	CI, G	40 1/2 x 27	I, TEFC	1 1/2	110/220	B	1 yr.	1 yr.	295	T	951	700
	66	S	3 1/8	2 1/8-L	53	S/L	Al, TS	CI	CI, S	38 x 28	I, TEFC	3	220	B	1 yr.	1 yr.	550	U	2,270	1,700
RELIANT	DD10	S	3 1/4	2 1/8-R	25 1/8	FS	TS	CI	CI, G	30 x 23	I, TEFC	1 1/2	110/220	B	1 yr.	1 yr.	210	T	–	370*
RYOBI	BT3000	B	3 9/16	2 1/2-R	28 1/8	EA	EA	CA	CA	41 1/2 x 44	U	13 amps.	110	B	1 yr.	1 yr.	75	U	1,157	600
SEARS	29884	S	3 3/8	2 1/4-L	24	FS	Al	CI	CI, G	44 x 27	I, ODP	1 1/2	110/220	B	1 yr.	1 yr.	248	U	550	500
	29872	S	3 3/8	2 1/4-L	24	FS	Al	CI	CI, G	44 x 27	I, ODP	1	110	B	1 yr.	1 yr.	235	U	500	400
	22688	S	2 1/2	2 5/16-L	24	FS	Al	CI	CI, G	40 x 20	I, ODP	1	110	D	1 yr.	1 yr.	160	U	350	300
	29809	S	2 1/2	2 5/16-L	24	FS	Al	CA	FS, S	40 x 27	I, ODP	1	110	D	1 yr.	1 yr.	126	U	300	280
SHOPSMITH	Sawsmith 2000	S	2 3/8	2 1/8-L	24 1/8	FS	TS	CA	–	27 x 31	I, ODP	1 1/4	110	D	1 yr.	1 yr.	190	U	999	699*
SKIL	3400	B	3	2 1/2-L	12	FS	EA	CA	–	26 5/8 x 17 5/8	U	13 amps.	110	D	2 yrs.	2 yrs.	40	T	250	200
TRANSPOWER	TS200	S	3 1/8	2 1/4-R	33 1/2	SL	TS	CI	CI, S	36 x 27	I, TEFC	3	220	B	5 yrs.	1 yr.	500	T	1,050	895*

NOTES:

1. (B) Benchtop
   (S) Stationary
2. (L) Left-tilting blade
   (R) Right-tilting blade
3. (EA) Extruded aluminum
   (FS) Formed steel
   (S/L) Steel with laminate cover
4. (Al) Angle iron
   (EA) Extruded aluminum
   (TS) Tubular steel
5. (CA) Cast aluminum
   (CI) Cast iron
6. (CA) Cast aluminum
   (CI) Cast iron
   (FS) Formed steel
   Types: (G) Grate
   (S) Solid
7. (I) Induction
   (ODP) Open, drip-proof
   (TEFC) Totally enclosed, fan-cooled
   (U) Universal
8. (B) Belt drive
   (D) Direct drive
9. (C) Canada
   (J) Japan
   (T) Taiwan
   (T/U) Taiwanese saw with U.S. motor and magnetic starter
   (U) United States
10. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.
    (*) Plus shipping

THICKNESS PLANERS

Today, you can choose among a greater number of affordably priced thickness planers than ever before. New low-priced portable machines help you mill stock to exact thickness and transform rough-sawn timbers into smooth boards.

The Shopsmith 555082 from the *WOOD*® magazine shop.

These portable planers proved themselves good buys in previous *WOOD* magazine tests (from left): Delta 22-540, Hitachi P12R (shown as model P12RA with attachable 6" jointer), Grizzly G1017, and Makita 2012.

Important buying points

- ***Capacity.*** All of the machines in the chart will handle 4" or thicker boards; which is more than enough capacity for most home woodworkers. Machines with more width capacity not only allow you to thin wider boards, they sometimes enable you to feed two or three boards through the machine simultaneously, side-by-side. The Williams & Hussey machine has an open-side design, so you can plane one side of a board's face, and then the other side, in effect, giving you 14" of width capacity.
- ***Motor type.*** With the exception of portable machines, most thickness planers have heavy and relatively quiet induction motors. Portable planers feature universal motors that weigh a fraction of what induction motors do, but they make considerably more noise. They also require occasional brush replacements.
- ***Horsepower.*** Because universal motors are not typically rated in horsepower, we list their amperage draw or amps in this chart category. In our earlier tests, all of the portable planers had comparable power, even though the manufacturers' amperage listings vary somewhat. Among the machines with induction motors, keep in mind that additional horsepower will help the machine take deeper cuts in wider stock.
- ***Number of speeds and feed rate.*** With several of the stationary machines, you choose between two speeds at which the machine feeds stock across the cutterhead. The Shopsmith and Woodmaster planers feature variable speed, which gives you even greater control over feed rate.
- ***Molding capability.*** With several of these planers, you can buy accessory molding heads—a nice feature if you want to mass-produce moldings. The Williams & Hussey unit even helps you make curved moldings. And, if you really want to get the most from these machines, keep in mind that the Belsaw, RBI, and Woodmaster models also take accessory sanding drums and gang-ripping saws.
- ***Weight.*** You can stow any of the portable planers under a bench or take it to a location outside your shop without great difficulty. If you will be lifting the machine, pay close attention to the weight specifications. Your back will be glad you did.

Produced by Bill Krier Photographs: Hopkins Associates

24 THICKNESS PLANERS TO THINK ABOUT

MANUFACTURER/ IMPORTER	MODEL	CAPACITY (WIDTH x THICKNESS) (INCHES)	MAXIMUM CUT (INCH)	POWER TRAIN					CUTTERHEAD				MATERIALS (4)				WARRANTY						
				MOTOR TYPE (1)	CONTINUOUS HORSEPOWER	VOLTS	POWER DRIVE (2)	NUMBER OF SPEEDS (3)	FEED RATE (FEET PER MINUTE)	CUTS PER INCH	NUMBER OF KNIVES	(J) JACK SCREWS OR (S) SPRINGS	CUTTER HEAD	HEAD SUPPORT	BED	MOLDING (Y) YES (N) NO	THICKNESS PLANER	MOTOR	COMES WITH STAND (Y) YES (N) NO	WEIGHT (LBS.)	COUNTRY OF ORIGIN (5)	LIST PRICE	SELLING PRICE (6)
AMT	4490	15 x 6	1/8	I, TEFC	2	220	B, C, G	2	16/20	73/58	3	S	ST	T4	CI	N	10 yrs.	1 yr.	Y	446	T	$1,050	$ 990*
BELSAW	985-5	12 3/8 x 6 1/4	3/16	I, TEFC	5	220	B, C	2	12/20	94/56	3	J	ST	S	CI	Y	1 yr.	1 yr.	Y	382	U	1,599	1,199*
BRIDGEWOOD	BW-15P	15 x 6	3/16	I, TEFC	3	220	B, C, G	2	16/20	70/56	3	S	ST	T4	CI	N	1 yr.	1 yr.	Y	450	T	1,199	895*
	BW-20P	20 x 8	3/16	I, TEFC	3	220	B, C, G	2	16/20	104/83	4	S	ST	T4	CI	N	1 yr.	1 yr.	Y	771	T	1,795	1,295*
DELTA	22-540	12 x 6	1/8	U	15 amps.	110	B, C, G	1	26	51	2	S	ST	SS4	SS	N	2 yrs.	2 yrs.	N	68	T	547	400
	22-661	13 x 5.9	1/8	I, TEFC	2	220	B, C, G	1	18 1/2	82	3	J	ST	T4	CI	N	2 yrs.	2 yrs.	Y	285	B	1,436	1,150
GRIZZLY	G1017	12 x 5	1/8	U	16 amps.	110	B, C, G	1	26	55	2	J	ST	SS4	SS	N	90 days	1 yr.	N	73	T	–	385*
	G1021	15 x 6	1/8	I, TEFC	2	220	B, C, G	2	16/20	70/56	3	S	ST	T4	CI	N	90 days	1 yr.	Y	450	T	–	735*
	G1033	20 x 8	3/16	I, TEFC	3	220	B, C, G	2	16/20	104/83	4	S	ST	T4	CI	N	90 days	1 yr.	Y	840	T	–	1,295*
HITACHI	P12R	12 x 6 5/8	3/32	U	15 amps.	110	B, C, G	1	26	72	2	S	ST	T4	NS	N	1 yr.	1 yr.	N	62	J	1,361	620
JET	JWP-15H0	15 x 6	1/8	I, TEFC	3	220	B, C, G	2	16/20	70/56	3	J	ST	T4	CI	N	2 yrs.	2 yrs.	Y	480	T	1,570	1,130
LOBO	WP0015	15 x 6	1/8	I, TEFC	3	220	B, C, G	2	16/20	70/56	3	S	ST	T4	CI	N	1 yr.	1 yr.	Y	520	T	–	829*
MAKITA	2012	12 x 6	3/32	U	12 amps.	110	B, C	1	26	51	2	self-aligning	A	S	SS	N	1 yr.	1 yr.	N	53	J	913	510
RBI	812	12 1/4 x 8	3/16	I, TEFC	2	220	B	1	11	88	2	J	ST	S	ST	Y	3 yrs.	1 yr.	Y	216	U	1,299	899*
	612	12 3/8 x 6 3/4	3/16	I, TEFC	3	220	B	2	11/33	94/32	3	J	ST	S	CI	Y	3 yrs.	1 yr.	Y	289	U	1,599	1,149*
	820	20 1/8 x 8	5/16	I, TEFC	5	220	B	2	11/32	93/31	3	J	ST	S	ST	Y	3 yrs.	1 yr.	Y	565	U	2,496	1,749*
RELIANT	DD37	15 x 6	1/8	I, TEFC	3	220	B, C, G	2	16.5/20	70/56	3	J	ST	T4	CI	N	1 yr.	1 yr.	Y	460	T	–	995*
RYOBI	AP10	10 x 5	1/8	U	13 amps.	110	B, C, G	1	26	51	2	S	ST	S	SS	N	1 yr.	1 yr.	N	58	J	794	380
SEARS	23373	12 1/2 x 6	3/32	U	14 amps.	110	B, C	1	26	51	2	S	ST	S	A	N	1 yr.	1 yr.	N	75	T	–	500
SHOPSMITH	555082	12 x 4	1/8	I, TEFC	1 3/4	110	B	V	7-20	72-205	3	J	ST	A	CI	N	1 yr.	1 yr.	Y	151	U	–	999
TRANSPOWER	AP850	15 1/4 x 8	3/16	I, TEFC	3	220	B	2	16/20	94/56	3	S	ST	T4	CI	N	2 yrs.	1 yr.	Y	600	T	–	725*
WILLIAMS & HUSSEY	W7S	7 x 8	1/4	I, TEFC	2	110/ 220	B, C, G	1	15	78	2	self-aligning	ST	T2	CI	Y	5 yrs.	1 yr.	Y	220	U	1,587	1,387*
WOODMASTER	712	12 1/4 x 6 3/4	3/16	I, TEFC	5	220	B	V	0-16	70-1000	3	J	ST	S	CI	Y	1 yr.	1 yr.	Y	300	U	1,667	1,199*
	718	18 1/2 x 6 3/4	3/16	I, TEFC	5	220	B	V	0-16	70-1000	3	J	ST	S	CI	Y	1 yr.	1 yr.	Y	420	U	2,302	1,699*

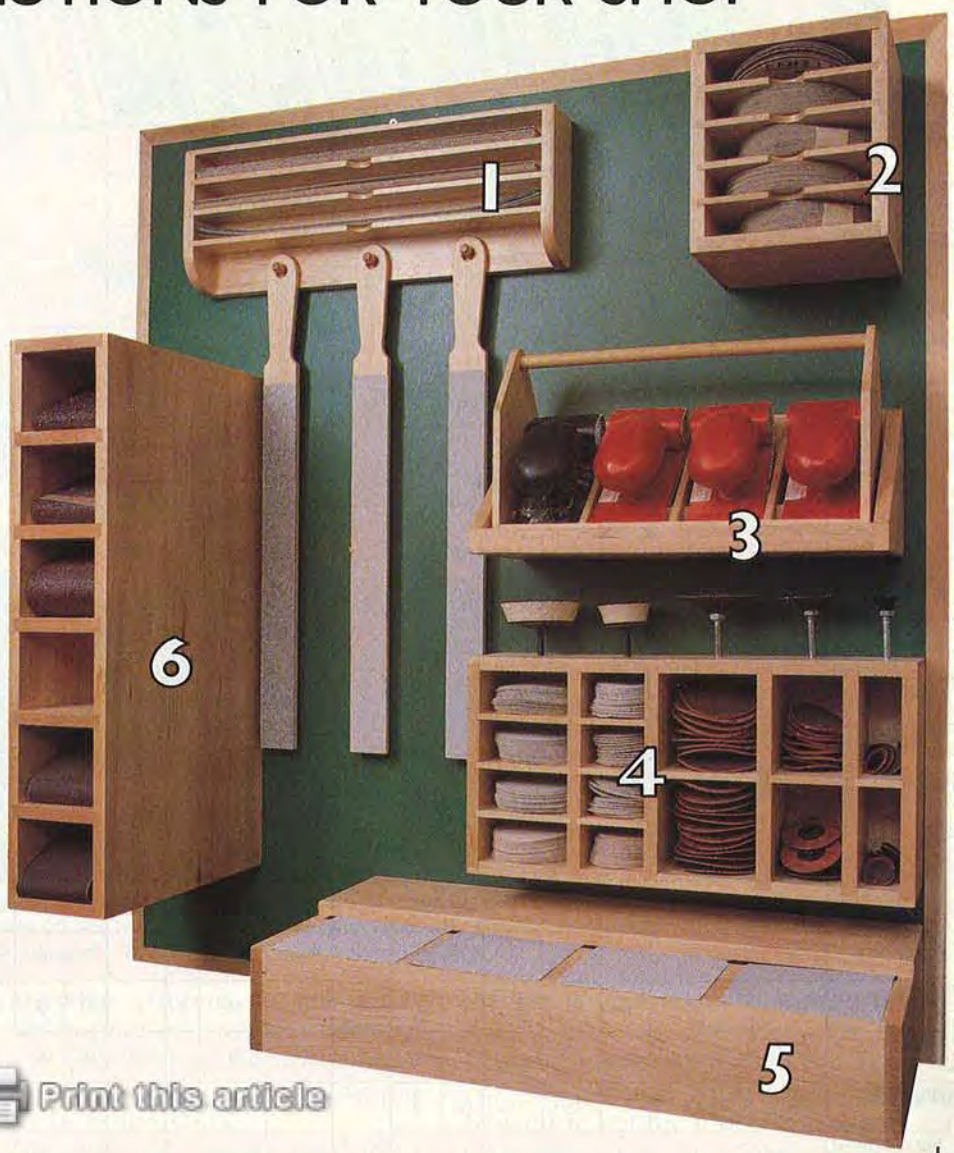
NOTES:

1. (I) Induction
   (TEFC) Totally enclosed, fan-cooled
   (U) Universal
2. (B) Belt
   (C) Chain
   (G) Gear
3. (V) Variable
4. (A) Aluminum
   (CI) Cast iron
   (NS) Nickel-plated steel
   (S) Sheet steel
   (SS) Stainless steel
   (SS4) Solid steel, 4 post
   (ST) Steel
   (T2) Tubular steel, 2 post
   (T4) Tubular steel, 4 post
5. (B) Brazil
   (J) Japan
   (T) Taiwan
   (U) United States
6. Selling prices based on advertisements, catalogs, and dealer inquiries at time of chart's production.
   (*) Plus shipping

SANDING-SUPPLY

6 SMOOTH SOLUTIONS FOR YOUR SHOP

Looking for that single location where you can store all of your sanding supplies? This *WOOD*® magazine original, featuring a half-dozen easy-to-build projects, may be just the ticket. It includes holders for belts, sanding discs and accessories, stick sanders and strips, hand sanders, and rolls of adhesive-backed sandpaper.



GUIDE TO OUR 6 GREAT ORGANIZERS

1. Sanding-stick and sandpaper-strip organizer
2. 5" sanding-disc holder
3. Hand-sander rack and tote
4. Disc-sander center
5. Roll-sandpaper dispenser
6. Belt-sander belt divider

Ordering Information

For our center, we used mostly 3M products, which you can find at home centers, hardware stores, contractor-supply outlets, and through woodworking mail-order catalogs. Or, order them from:

Puckett Electric
841 11th Street
Des Moines, IA
50309

Call 800/544-4189 or 515/244-4189 to order.

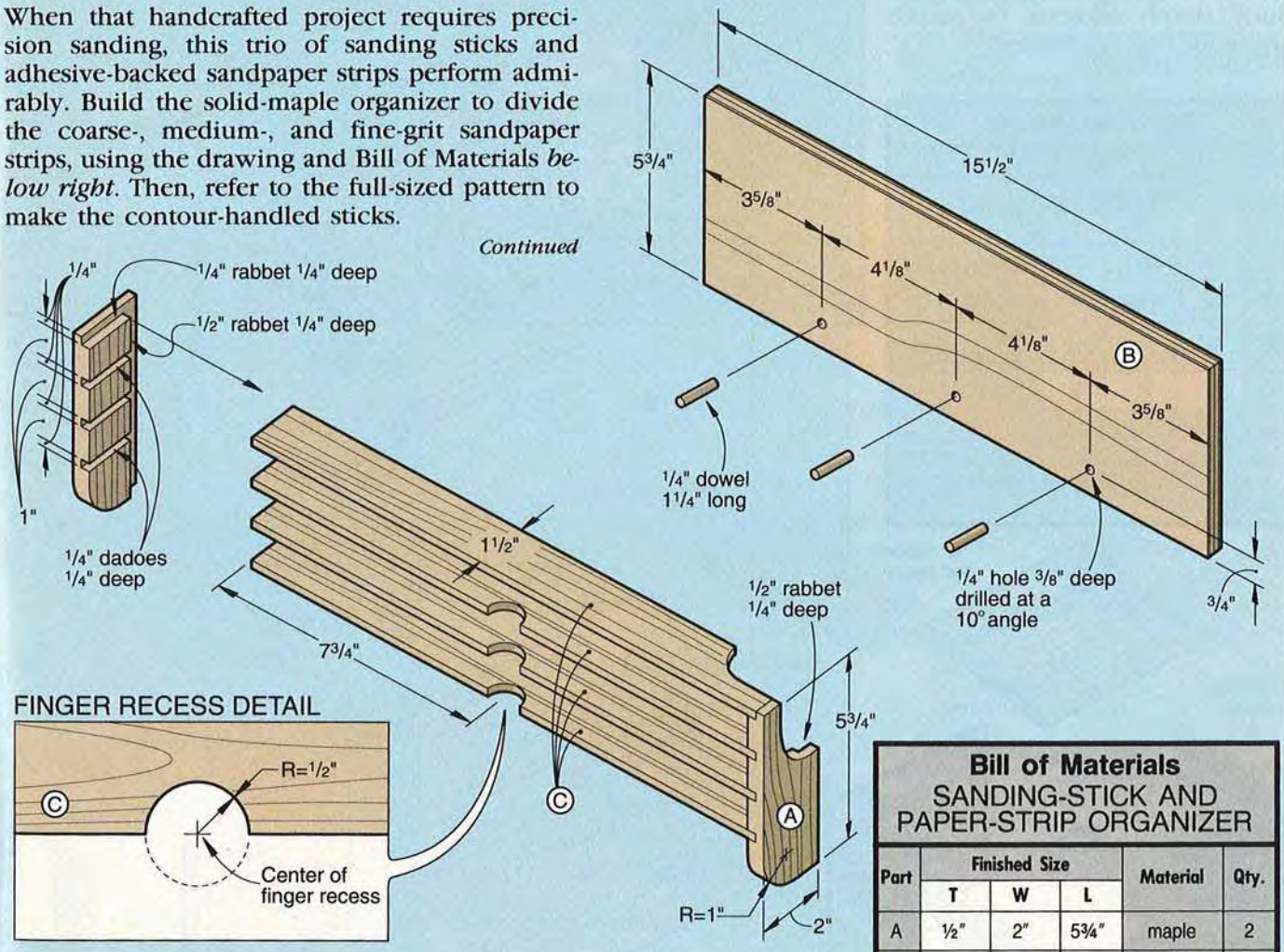
Print this article

ORGANIZER

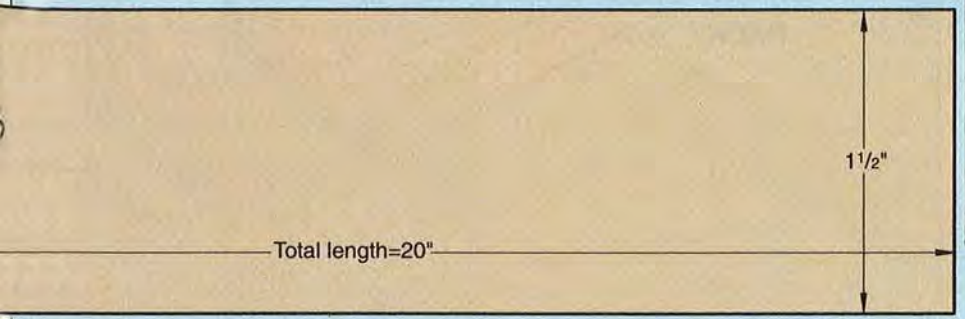
SANDING-STICK AND SANDPAPER-STRIP ORGANIZER

When that handcrafted project requires precision sanding, this trio of sanding sticks and adhesive-backed sandpaper strips perform admirably. Build the solid-maple organizer to divide the coarse-, medium-, and fine-grit sandpaper strips, using the drawing and Bill of Materials *below right*. Then, refer to the full-sized pattern to make the contour-handled sticks.

Continued



FINGER RECESS DETAIL



Bill of Materials
SANDING-STICK AND PAPER-STRIP ORGANIZER

Part	Finished Size T	W	L	Material	Qty.
A	½"	2"	5¾"	maple	2
B	½"	5¾"	15½"	birch plywood	1
C	¼"	1½"	15½"	maple	4
D	¼"	1½"	20"	maple	3

Supplies: 3M adhesive-backed 1½ × 14⅝" sandpaper strips; fine, cat. no. 9125; medium, cat. no. 9126; coarse, cat no. 9127; approximately $3.50 per pack of 5. ¼" birch dowel.

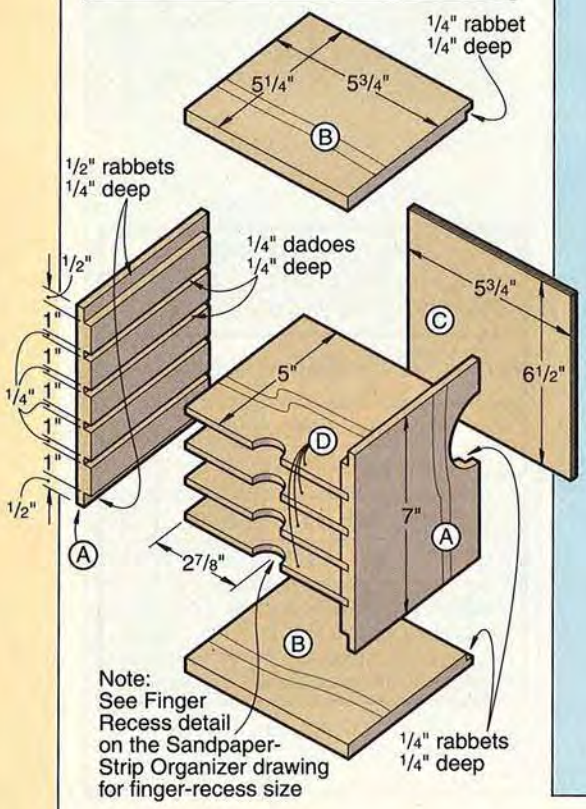
2 5" SANDING-DISC HOLDER

Adhered to a shanked disc pad and powered by your portable drill, a sanding disc allows you to sand contours with minimum effort. The discs press on and peel off, making for quick changes to the next grit. For larger sized discs, simply increase the depth and width of the holder.

Bill of Materials
5" DISC-SANDER HOLDER

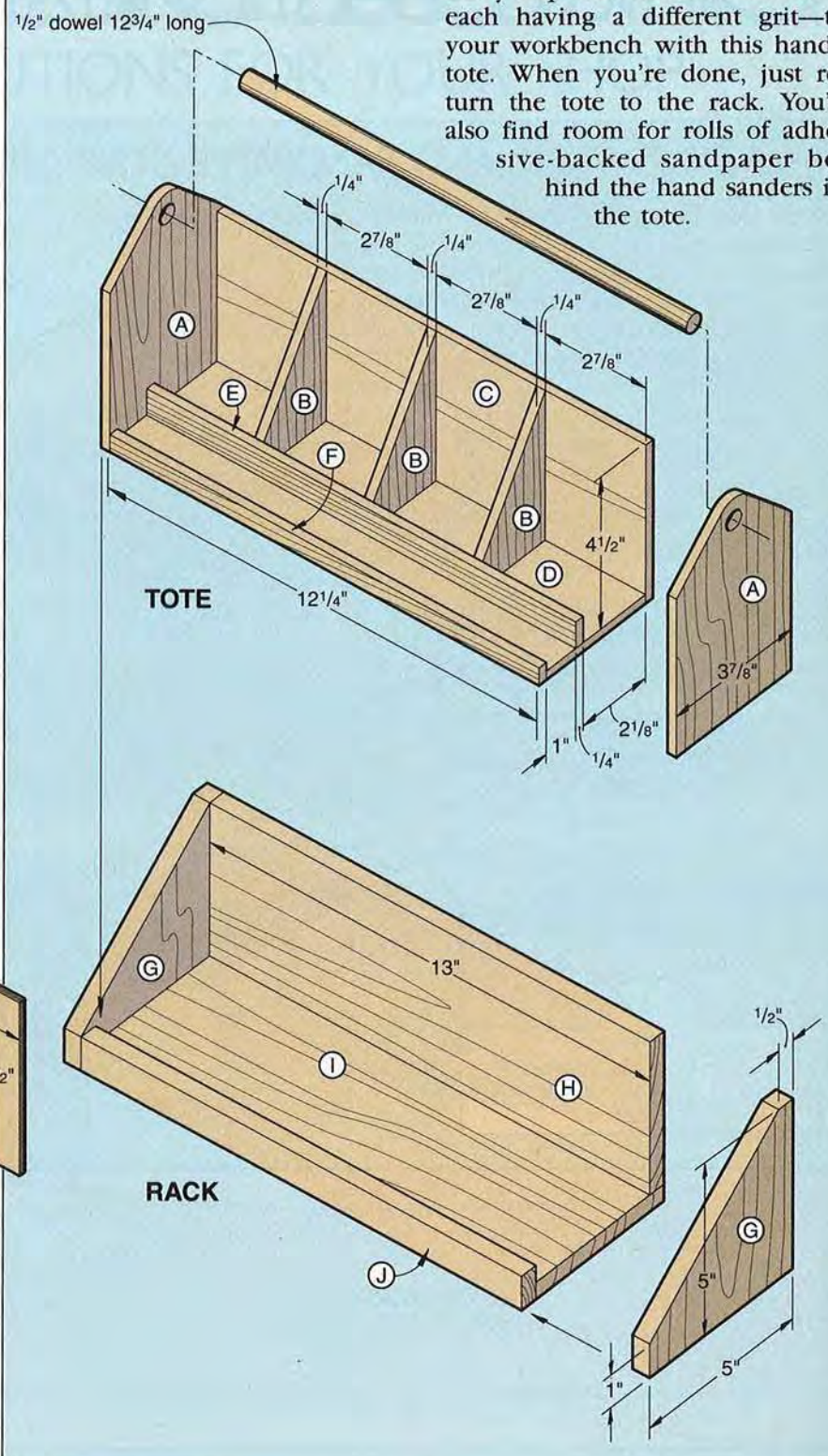
Part	Finished Size T	W	L	Material	Qty.
A	½"	5¼"	7"	maple	2
B	½"	5¼"	5¾"	maple	2
C	¼"	5¾"	6½"	birch plywood	1
D	¼"	5"	5¾"	maple	4

Supplies: 3M adhesive-backed 5" discs; fine grit, cat. no. 9170; medium grit, cat. no. 9171; coarse grit, cat. no. 9172; Approximately $2.50 per pack of 5.



3 HAND-SANDER TOTE AND RACK

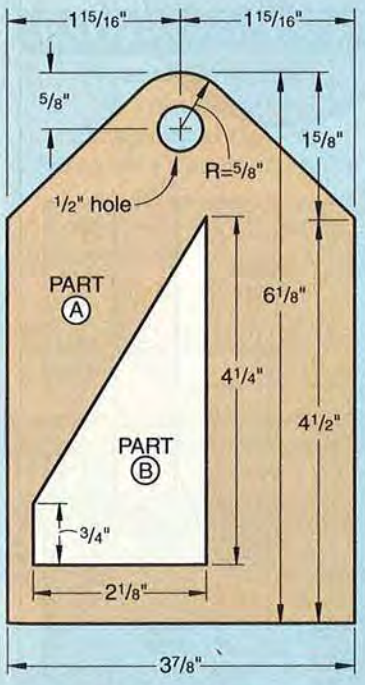
Carry a quartet of hand sanders—each having a different grit—to your workbench with this handy tote. When you're done, just return the tote to the rack. You'll also find room for rolls of adhesive-backed sandpaper behind the hand sanders in the tote.



Bill of Materials
HAND-SANDER TOTE AND RACK

Part	Finished Size T	W	L	Material	Qty.
TOTE					
A	¼"	3⅞"	6⅛"	maple	2
B	¼"	2⅛"	4¼"	maple	3
C	¼"	4½"	12¼"	maple	1
D	¼"	3⅜"	12¼"	maple	1
E	¼"	¾"	12¼"	maple	1
F	¼"	½"	12¼"	maple	1
TOTE RACK					
G	½"	5"	5"	maple	2
H	½"	4½"	13"	maple	1
I	½"	4½"	13"	maple	1
J	½"	1"	13"	maple	1

Supplies: 3M Hand Ease sander, cat. no. 45204; approximately $7. Sandpaper roll refills; very fine 2½×90", cat. no. 10124; fine 2½×80", cat. no. 10125; medium 2½x55, cat. no. 10126; approximately $2.50 per roll.



PARTS VIEWS

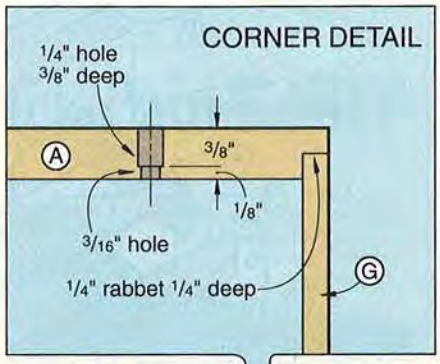
4 DISC-SANDER CENTER

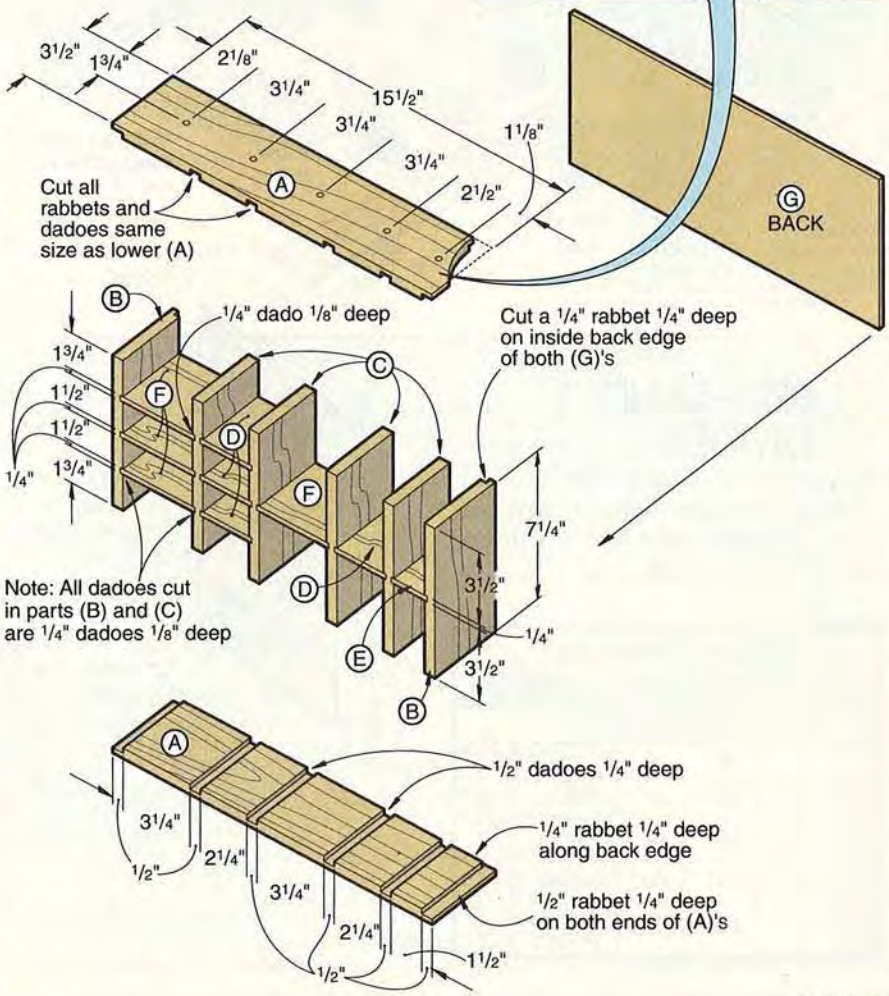
Bill of Materials
DISC-SANDER CENTER

Part	Finished Size T	W	L	Material	Qty.
A	½"	3½"	15½"	maple	2
B	½"	3½"	7¼"	maple	2
C	½"	3¼"	7¼"	maple	4
D	¼"	3¼"	2½"	maple	4
E	¼"	3¼"	1¾"	maple	1
F	¼"	3¼"	3½"	maple	4
G	¼"	7¼"	15"	birch plywood	1

Supplies: disc-sanding kits available through most woodworking mail-order suppliers. We got ours from Industrial Abrasives Co., 642 N. 8th St., Box 14955, Reading, PA, 19612.

You can't beat small-diameter disc sanders for sanding the contours of shapely projects and the inside and outside of turned bowls. Here's a slick way to get your sanding-adhesive drill attachments and various discs in order and divided by grit.





Continued

5 ROLL-SANDPAPER DISPENSER

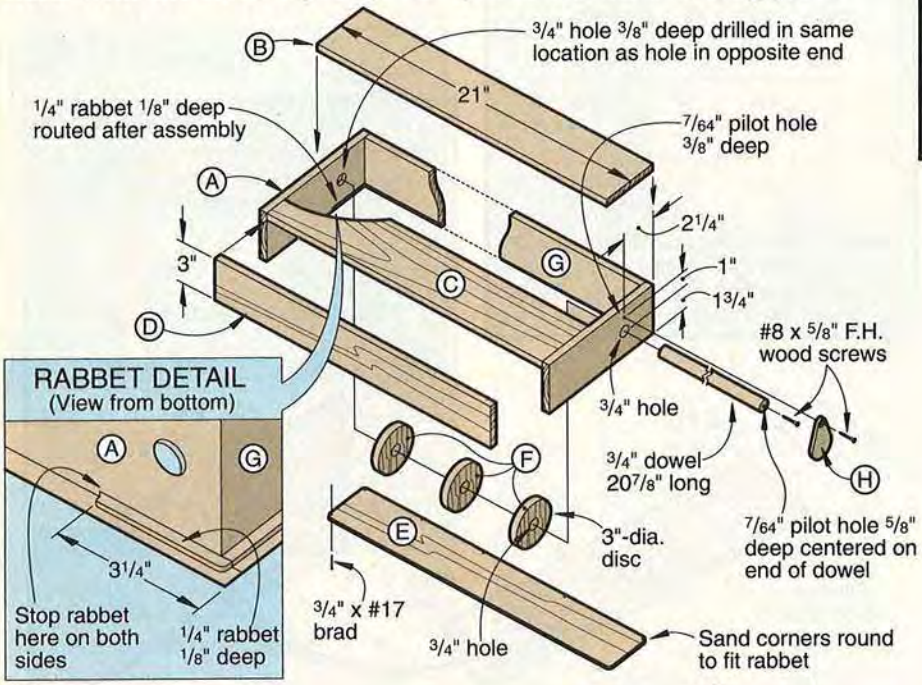
This handy dispenser lets you store up to four 4½"-wide rolls of sandpaper. It loads from the bottom, and is dimensioned to let you tear off 4" pieces, perfect for the palm sander.

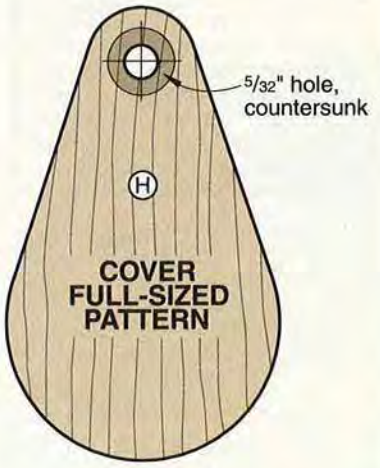
To remove a needed piece, pull the end of the sandpaper roll flush with the front top edge of part C. Fold a crease in the sandpaper along the back edge of part C (4" from the front). Pull the paper out until the crease aligns with the front edge of C. Adhere the paper back to part C so the crease is flush with the front edge. Just pull down on the paper to tear-off a 4"-long piece.

Bill of Materials
ROLL-PAPER DISPENSER

Part	Finished Size T	W	L	Material	Qty.
A	½"	3½"	9"	maple	2
B	½"	4½"	21"	maple	1
C	½"	4"	20"	maple	1
D	½"	3"	20"	maple	1
E	⅛"	3"	20½"	maple	1
F	½"	3" diam.		maple	3
G	½"	3½"	20"	maple	1
H	¼"	1⅜"	2¼"	maple	1

Supplies: 3M adhesive-backed sandpaper rolls 4½"-wide by 10 yards long, 80-grit, cat. no. 00395; 100-grit, 00396; 120-grit, 00397; 220-grit, 00399; approximately $12 to $13 per roll. ¾" dowel, #8×⅝" flathead wood screws, ¾"×#17 brads.



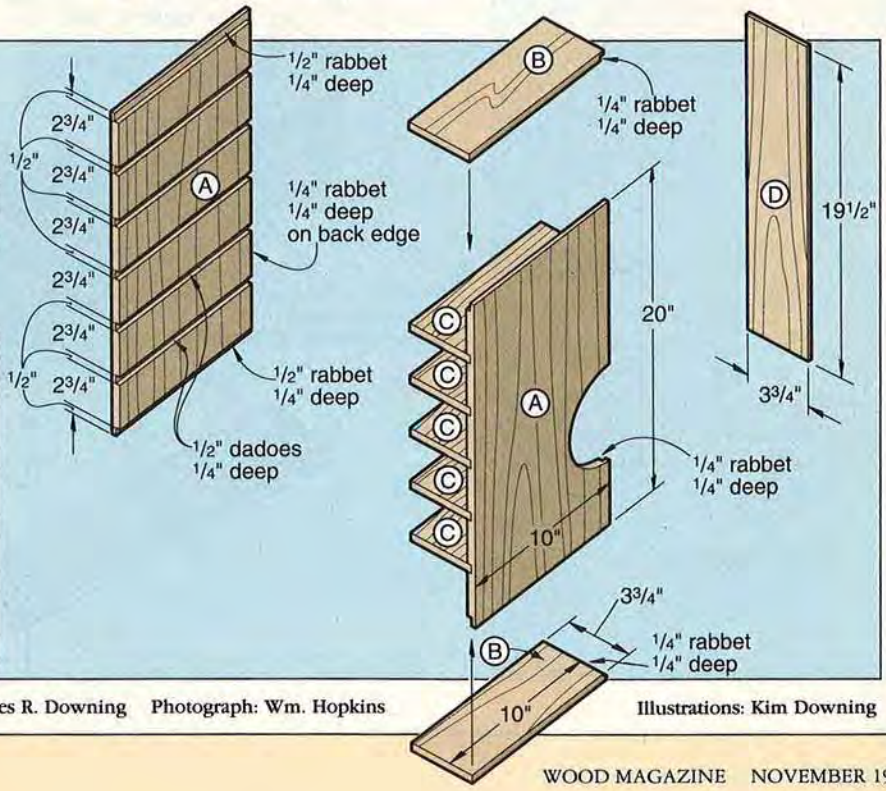


6 BELT-SANDER DIVIDER

We sized our divider for holding 3"-wide sanding belts. For wider belts, just increase the width of pieces B and C.

Bill of Materials
BELT-SANDER BELT DIVIDER

Part	Finished Size T	W	L	Material	Qty.
A	½"	10"	20"	maple	2
B	½"	3¾"	10"	maple	2
C	½"	3¾"	9¾"	maple	5
D	¼"	3¾"	19½"	birch plywood	1



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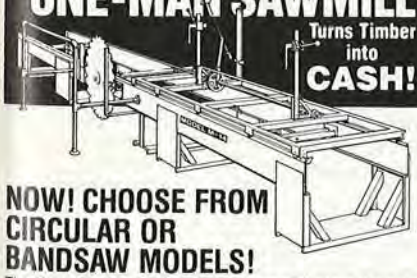

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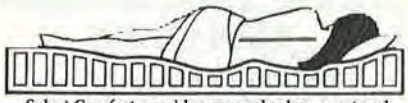

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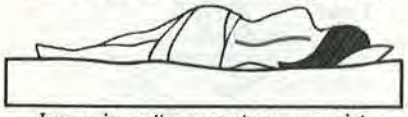
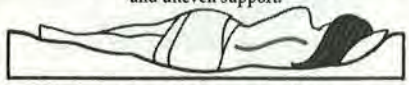


Innerspring mattresses create pressure points and uneven support.



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HOW TO CONTACT TOOL MAKERS

Here's a rundown of addresses and phone numbers for the manufacturers represented in the charts on *pages 64-79*.

AEG
(Distributed by Atlas Copco)
P.O. Box 6003
New London, CT 06320-1777
800/243-0870
203/447-4600

American Machine & Tool (AMT)
4th and Spring
Royersford, PA 19468
215/948-0400

Belsaw
4111 Central Avenue N.E.
Minneapolis, MN 55421
612/781-2345

Black & Decker
10 North Park Dr.
P.O. Box 798
Hunt Valley, MD 21030
800/762-6672 or 410/527-7000

Bosch Power Tool Corp.
100 Bosch Blvd.
New Bern, NC 28562-6997
(see Yellow Pages for your nearest dealer)

Bridgewood
(Distributed by Wilke Machinery)
3230 Susquehanna Trail
York, PA 17402
717/764-5000

Delta
246 Alpha Dr.
Pittsburgh, PA 15238
800/438-2486
412/963-2400

DeWalt
626 Hanover Pike
P.O. Box 158
Hampstead, MD 21074
800/433-9258

Dremel
4915 21st St.
Racine, WI 53406
414/554-1390

Elu
(see Black & Decker listing)

Excalibur Machine & Tool Co.
29 Passmore Ave. No. 6
Scarborough, Ont., Canada M1V 3H5
800/387-9789
416/291-8190

Freud
P.O. Box 7187
218 Feld Ave.
High Point, NC 27264
919/434-8300

General Manufacturing
835 Cherrier St.
Drummondville, Quebec, Canada J2B 5A8
819/472-1161

Grizzly
(east of Mississippi River)
2406 Reach Rd.
Williamsport, PA 17701
800/523-4777
(west of Mississippi River)
P.O. Box 2069
Bellingham, WA 98227
800/541-5537

Hegner
(Distributed by
Advanced Machinery Imports)
P.O. Box 312
New Castle, DE 19720
800/648-4264

Hitachi
4487 E. Park Drive
Norcross, GA 30093
404/925-1774

Jet
P.O. Box 1477
Tacoma, WA 98401
206/572-5000

Lobo
9034 Bermudez St.
Pico Rivera, CA 90660
310/949-3747

Makita USA
14930 Northam St.
La Mirada, CA 90638-5753
714/522-8088

Milwaukee Electric Tool
13135 W. Lisbon Rd.
Brookfield, WI 53005
414/783-8311

Panasonic
2 Panasonic Way-4A3
Secaucus, NJ 07094
201/348-5334

Penn State Industries
2850 Comly Rd.
Philadelphia, PA 19154
800/288-7297

Porter-Cable
4825 Highway 45 N.
P.O. Box 2468
Jackson, TN, 38302-2468
901/668-8600

Powermatic
Morrison Rd.
McMinnville, TN 37110
615/473-5551

RB Industries (RBI)
1801 Vine St.
P.O. Box 369
Harrisonville, MO 64701
800/487-2623
816/884-3534

Reliant
(Distributed by Trend-Lines)
375 Beacham St.
Chelsea, MA 02150
800/767-9999

Ryobi
5201 Pearman Dairy Rd.
P.O. Box 1207
Anderson, SC 29622-1207
800/323-4615
803/226-6511

Sakura
(Distributed by Amana Tool Corp.)
120 Carolyn Blvd.
Farmingdale, NY 11735
800/445-0077
516/752-1300

Sears
(call or visit your local Sears store or call a Sears telecatalog center)

Shopsmith
3931 Image Drive
Dayton, OH 45414
800/762-7555

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Marketing Communications
4300 W. Peterson
Chicago, IL 60646
312/286-7330

Transpower
322 Paseo Sonrisa
Walnut, CA 91789
714/594-0780

Williams & Hussey
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Wilton NH 03086
800/258-1380
603/654-6828

Woodmaster
1431 N. Topping
Kansas City, MO 64120
800/821-6651
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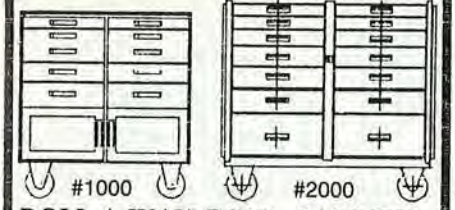

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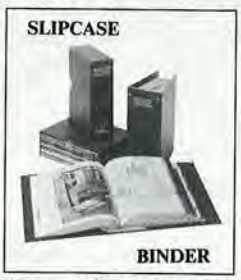

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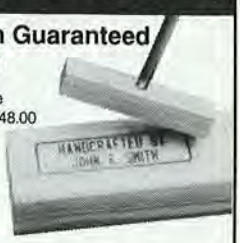

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Here's what you'll need:

Stock
2×2″ turning square; length depends on the tool. See *below.*

Lathe tools
Spur drive center, revolving cone tail center, ½″ spindle gouge, and ¾″ skew chisel.

Lathe speeds
Roughing: 600–900 rpm.
Finishing: 1,200–1,500 rpm.

Sizing up the job at hand

Start with stock 2″ longer than the finished handle. Determine the handle length using these guidelines:

- Handles 14–16″ long give needed leverage and stability to large or heavy tools, such as bowl gouges and heavy scrapers.
- Handles 10–12″ long fit most standard tools, such as gouges, chisels, parting tools, and scrapers.
- Handles 6–8″ long suit smaller tools or files.

Turning your custom handle

Mount the turning square with a revolving cone tail center and a spur drive center. Rough it to 1¾″ diameter.

At the headstock end, cut a tenon ½″ long that fits snugly into the center hole of your drill-press table. Remove the turning after making index marks on it and the drive center for remounting.

Center the drill-press chuck over the table hole. Stand the tenon in the hole, grip the blank with a clamp, and drill a hole 1/32″ smaller than the tool-shank diameter, 4″ deep in the turning's end.

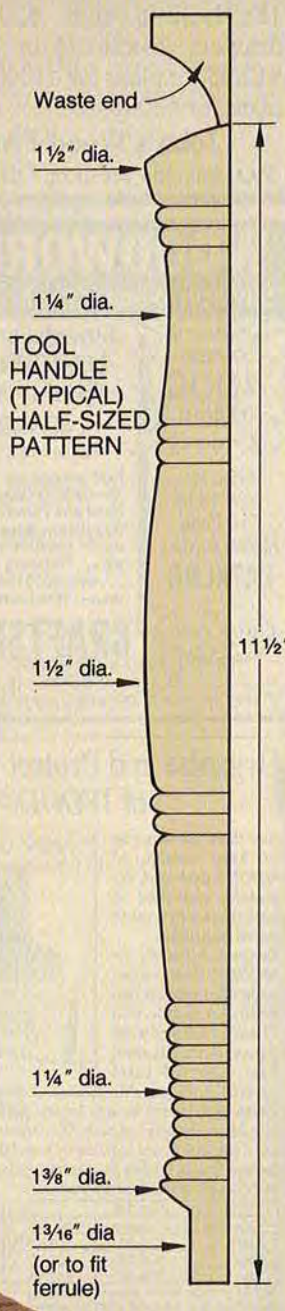
Remount the turning. Shape the handle to the profile shown or one of your own. Establish a comfortable diameter in the grip area—usually 1″ to 1½″.

For a ferrule, cut and deburr a ¾″ length of ¾″ copper pipe (½″ pipe on smaller handles). Form a 1″-long tenon on the drilled end that fits the pipe.

Now, turn the waste at the butt end to about ⅛″ diameter where it joins the handle. Sand the handle as necessary. Remove the turning, break or saw off the waste, and sand the end.

Drive the ferrule on, and sand the tenon flush. Plane a flat on the handle to keep the tool from rolling around.

Mark the tool shank 2½″ to 3″ from the end on larger tools, about 2″ on smaller ones. Start the shank into the handle, and then rap the handle butt sharply on the workbench to drive the shank in. Continue until you've covered the shank mark.



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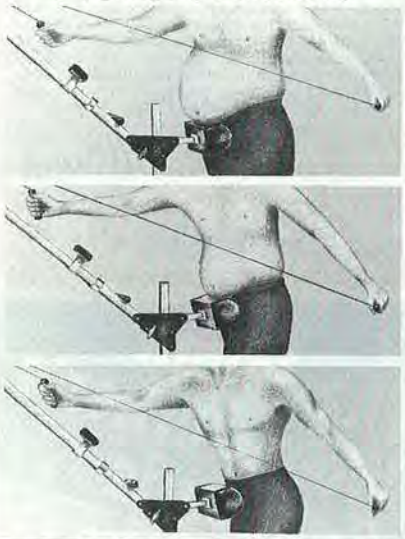

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Coon Rapids, Minnesota
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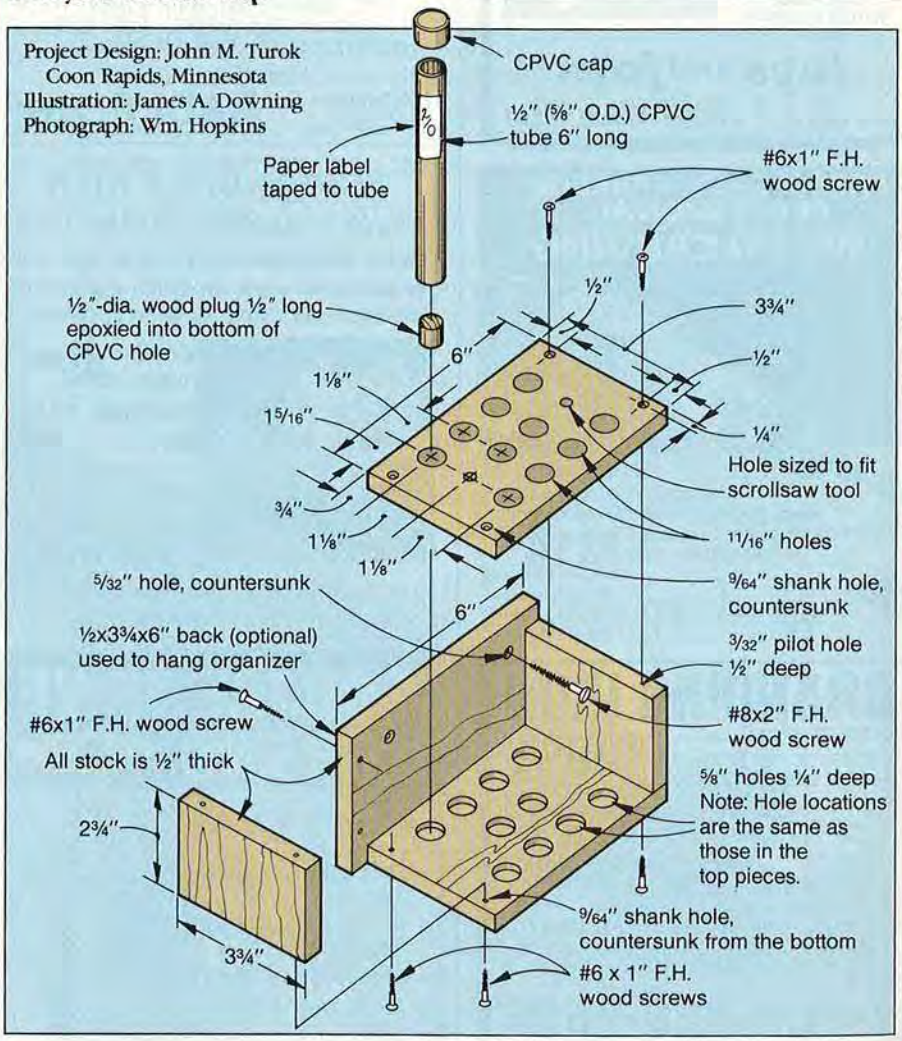

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Toxic wood: Should we worry?

I work at a lumber company that specializes in all kinds of domestic and exotic woods from red cedar to zebra and cocobolo. We sell these woods, and we also machine woods to customers' specifications. Can you tell me the levels of toxicity in different woods from highest to lowest? What are the risks when breathing dust? Are there any known studies done on this subject?

—Bruce Reese, Hazelpatch, Mich.

Bruce, the three woods you mentioned do, indeed, have toxic qualities. For instance, western red cedar can cause dermatitis, giddiness, asthma, and even nasal cancer if you are exposed long enough to it, according to Dr. Regis Miller, wood anatomist, Forest Product Laboratories, Madison, Wisconsin. Cocobolo, another wood you mentioned, can cause the same exact health problems.

"Reaction to wood toxicity depends on the individual. However, certain woods, we call them 'bad actors,' cause more people problems than others," says Miller. (See the table at right.)

He recommends consulting a dermatologist or physician if you have any abnormal symptoms after working around wood or wood dust. "Woodworkers should always wear dust masks," he says. "Also, consider wearing protective clothing, and a 'barrier' skin cream such as Vaseline or zinc-oxide ointment, and shower immediately after work." But don't become overconcerned. Man has worked around wood for thousands of years with little apparent harm to overall health.

For more information about wood toxicity see our December 1989 issue, pages 74-77.

Note: This is only a partial listing. Over 100 tree species can cause some type of allergic reaction in some people. Direct questions you have on reactions to a regional poison control center or dermatologist.

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#DC3 ..... **$209.95** (UPS $10)

900 CFM Dust Collector:
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#DC2 ..... **$299.95** (UPS $30)

610 CFM Dust Collector:
This collector is perfect for hook-ups to almost any single machine.
• 1HP, 110/220V • 1 outlet @ 4" • 2 Bags @ 20 gal • Wt: 75lbs • 610 CFM • **Free:** 8' of hose, 1ea 4" to 3" & 4" to 2" adaptors.. **$15 Value**
#DC1 ..... **$199.95** (UPS $20)

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Balsam fir		X		X			X				X			X	
Beech		X		X				X		X				X	
Birch		X	X		X			X			X	X		X	
Black locust	X				X			X		X				X	
Blackwood		X		X				X			X	X			X
Boxwood		X	X				X				X	X		X	
Cashew		X		X				X			X	X		X	
Cocobolo	X		X	X				X			X	X			X
Dahoma		X	X					X			X				X
Ebony	X		X	X				X			X	X			X
Elm		X		X			X				X			X	
Goncalo alves		X		X			X				X	X		X	
Greenheart		X	X	X					X		X	X			X
Hemlock						X		X		X	X			X	
Iroko	X		X	X					X		X	X			X
Mahogany		X	X	X			X				X			X	
Mansonia	X		X	X					X		X	X			X
Maple		X	X					X			X	X		X	
Mimosa	X				X				X	X	X	X			X
Myrtle		X	X					X		X	X	X			X
Oak, red						X		X			X			X	
Obeche		X	X	X				X			X				X
Oleander	X				X				X	X	X	X		X	
Olivewood		X	X	X				X			X	X			X
Opepe		X	X				X				X			X	
Padauk	X		X	X	X				X		X	X			X
Pau ferro		X		X			X				X	X		X	
Peroba rosa		X	X					X			X	X			X
Purpleheart		X		X	X		X				X	X		X	
Quebracho						X		X			X			X	
Redwood		X	X			X	X				X			X	
Rosewood(s)		X	X	X					X		X	X			X
Satinwood	X		X	X					X		X	X			X
Sassafras		X	X		X	X	X			X	X	X		X	
Sequoia	X		X				X				X	X		X	
Snakewood	X		X					X			X	X		X	
Spruce		X	X				X				X	X		X	
Walnut		X		X			X				X			X	
Wenge		X	X	X				X			X	X			X
Willow		X			X			X		X	X		X		
W. red cedar		X	X			X		X			X	X			X
Teak		X		X				X			X				X
Yew, European	X			X				X			X	X			X
Zebrawood		X		X				X			X	X		X	

Continued on page 94

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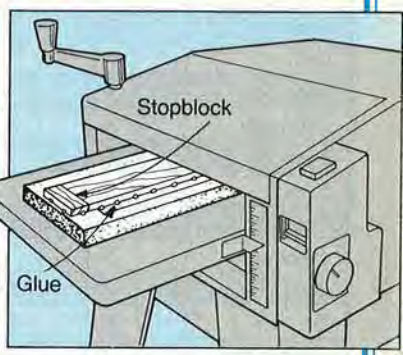
ASK WOOD

Continued from page 93

Carrier board solves planer problem

I recently purchased a Ryobi AP 10 portable thickness planer. While reading the operating instructions, I found a warning section that says I should not plane any board less than ½" thick. What is the reason for this restriction? How can I get around it? One of the reasons I wanted a thickness planer was to be able to plane boards less than ½" thick.

—Gordon Henry, Coon Valley, Wis.



Gordon, Ryobi—like all other manufacturers—puts a stop on their planers to keep you from physically lowering the blades into the steel bed. You should never attempt to remove the stop. However, Project Builder Jim Boelling has a solution to your problem. "You can plane down to any thickness you want. Yes, even paper-thin," he says. Here's how: Place a carrier board underneath the stock that you wish to plane. But, be careful to select a carrier that is absolutely flat and of uniform thickness. Boelling suggests ¾" plywood or particleboard. Once you've selected your carrier, place the board you wish to plane on top of it. Then, with a hotmelt glue gun, "spot-weld" the two boards together around the edges, not between the boards. As a final safety precaution, glue a stop strip on the front end of your carrier board. This prevents kickback as you feed the board through the planer.

Reader wants to make his own tack cloth

Do you have a recipe for making a tack cloth for cleaning up fine dust? Please share it with the rest of us.

—Kory Boster, Claremore, Okla.

You stumped our staff with that one, Kory. So we went to finishing expert Mitch Kohanek, instructor at Dakota County Technical College, Rosemount, Minnesota. (See issue 49 pages 46-49.*) "Tack cloth is really nothing more than cheese cloth with a little varnish sprayed on it. Mix a little linseed oil and mineral spirits in with the varnish," he says. "Then pour it in a small spray bottle. Spray a fine mist on the cheese cloth. Then remember to keep the tack cloth in an airtight container or it will harden." Mitch also warns not to apply too much of the mixture to the cloth. "You can actually rub varnish into the wood while you're wiping dust off if you soak the cheese cloth or rub too hard. Remember, just a light coat will do the job."*

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TRANSITIONAL PLANES

PERSISTENT PLAYERS IN WOODWORKING HISTORY

The Bailey's patented transitional smoothing plane with a beech body was introduced in the 1870s and made until 1943. This example might be worth $100 or more.

Historians don't quite agree when it comes to exactly dating the first woodworking planes. Some credit the ancient Hebrews with the invention of the wood-bodied tool with its iron cutter; others say it was 4th-century Egyptians. But no matter its origin, the wooden plane was the favorite of woodworkers from medieval times to the early 20th century.

The marriage of metal and wood

Planes with a wooden body or sole (usually beech) and an iron or steel blade-setting mechanism as part of an iron or steel upper body are called "transitional" by today's tool collectors. The name shouldn't be taken literally, though, because transitional planes didn't fill a time slot between all-wood planes and the development of all-metal ones. Transitional planes and metal planes both showed up on the American tool scene at the same time—just prior to the Civil War.

Early American woodworkers relied mostly on English-made woodworking tools. As early as 1740, though, there were hundreds of planemakers around Boston, Philadelphia, and New York City plying their trade in wooden planes. One of them, Hazard Knowles of Colchester, Connecticut, had patented an iron-bodied plane in 1827. However, his metallic plane did not improve blade-setting accuracy. That feat was contributed by Leonard Bailey, a Massachusetts cabinetmaker.

In 1855, Bailey patented his first tool, a bronze plane-scraper. Then, he patented a refinement to the cutter adjustment in 1858. His wooden-soled plane had an iron body containing a lever-held, sliding cutter-adjustment mechanism. Bailey's patent today remains the most significant thing to remember about transitional planes—they were the first to feature a reliable means of adjusting the cutter up and down for a rough or smooth cut.

After his 1858 patent, Bailey built wood-bottomed planes and metallic ones as well, and other planemakers incorporated many of his ideas. To woodworkers, the more reliable cutter-setting was a boon, although they were reluctant to transfer entirely to all-metallic planes. After all, wood-bottomed planes cost less, felt better, and were just as accurate.

Stanley takes over

Stanley Rule & Level Company of New Britain, Connecticut, bought Bailey's business in 1869, and by 1900 had dominated all competitors. But Bailey's patent had had such an impact on the industry that today's tool collectors find a rich selection of transitional planes. Besides Stanley, Chaplin, Gage, Keen Kutter, Ohio, Sargent, Standard Rule, Union, and Winchester are brands to look for.

Written with Philip Whitby Photograph: Tim Murphy

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#27 Low-relief carving, country bench, cupboard, recipe-card box, toy trucks, lamp, perfume decanter.
#28 Trestle table, finish scraper, birdhouse, plant stand, stack-laminated bowls, stationary sanders.
#29 Entertainment center, low-voltage lighting, train whistle, bud vase, napkin holder, parrot mobile, tops.
#30 Shaker chair, doll cradle, rod rack, strip sander, carved whale, portable belt sander.
#31 Woody car, rip fence, waddling duck, woven basket, candle holder, tabletop frame, jointers.
#32 Tambour desk, oak mirror, bookends, tabletop easel, recipe-card holder, biplane, carved angel.
#34 Bowed psaltery, dollhouse, tablesaw base, framed hummingbird, carved bluegill, sandblasting, planers.
#35 Oak settee, monster truck, spoon rack, handscrew clamps, toy wheels, tabletop finish.
#36 Sofa table, candle box, candlestand, country clock, country finishes, electric drills, bird feeder, wooden toy excavator.
#37 Workbench, toy tractor, weed pots, scrollsawed necklace, try square, carved coyote.
#38 Routers, tablesaws, bandsaws, thickness planers, jointers, sanders, lathes, drill presses.
#39 Block castle, card holder, jewelry box, cutting board, sleigh, tape and disc organizers, shapers, Santa carving.
#40 Moldings, canvasback carving, gun case, oval carrier, vase, shadow box, relief puzzle.
#41 Chip-carved farmer, front-end loader, briefcase, plaque, napkin holder, door harp, wall cabinet.
#42 Carved Indian, spice cabinet, outdoor chairs, domed display, welcome sign, birdhouse, clock.
#43 Mobile, wildlife scene, outdoor table, eggs, cutting board, barnyard cutouts, cosmetic mirror.
#44 Intarsia cat, calendar/clock, Southwest tables, carved plaque, toy toolbox, turned pens, weather vane.
#45 Barstools, Shaker buffet, wooden toy grader, picture frame, napkin/letter holder, bear plaque.
#46 Working with plywood, otter carving, dado tools, media center, toy airplane, toboggan, lotion dispenser, ark.
#47 Hand tools, finishes, benchtop and stationary power tools, portable power tools, accessories, medley of merchandise.
#48 Mortise-and-tenon joinery, wooden hardware, music box, plant stand, turned ornaments, carved Santa, steak knives.
#49 How to make cabriole legs, cabriole-leg coffee table, cheval mirror, Shaker wall clock, quilt hanger, cookie molds.
#50 Power mitersaws, chip carving, walnut bookcase, toy wrecker, mitersaw work station, Old-West birdhouse.
#51 Bandsawed dovetails, bandsaws, high chair, kids' clothes tree, turned oil lamp, plate rack, knitter's carryall, pizza paddle.
#52 Sharpening turning and carving tools, porch rocker, kid's booster box, potpourri container, quilt stand, picture frame.
#53 Finish removers, tin punching, pie safe, carved daffodil, turned music box, caterpillar puzzle, bear wall plaque, wooden wagon.
#54 IDEA SHOP, dust collectors, whittling, tissue-box cover, letter openers, workbench, tool cabinet, shop stool, shop clock.

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Illustrated collection of better, safer, and faster ways of working with wood in your shop.

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P.O. Box 9266
Des Moines, IA 50306-9266

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GOOD NEWS! We recently found a limited number of the following issues: #11, #12, #17, #18, and #24.

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Single issues @ $4.95 ppd. For foreign orders, please add $1 per issue. 335 GREAT SHOP TIPS @ $10.95 ppd.

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☐ 26 ☐ 27 ☐ 28 ☐ 29 ☐ 30 ☐ 31 ☐ 32 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ 39 ☐ 40 ☐ 41 ☐ 42
☐ 43 ☐ 44 ☐ 45 ☐ 46 ☐ 47 ☐ 48 ☐ 49 ☐ 50 ☐ 51 ☐ 52 ☐ 53 ☐ 54 **335 GREAT SHOP TIPS** ☐

WOOD® MAGAZINE ANNOUNCES:

1993 Build-A-Toy™ Contest

Entry Deadline: February 1, 1993

Our Fifth Annual contest to benefit kids through Toys for Tots.

Don't miss a special 1992 CRAFTED FOR JOY exhibit during the National Crafts Festival September 16 thru November 1, 1992 at Silver Dollar City®, Branson, Missouri. A benefit auction of the award-winning toys will be held at the new Grand Palace Theater December 6, 1992.

GRAND PRIZE:

One Grand Prize open to original designs only for all skill levels.

A trip for a family of four to Silver Dollar City during the 1993 National Crafts Festival.*

Top photo: Silver Dollar City Theme Park: The Home of American Craftsmanship themed in a turn of the century crafts village. Plus, you'll find shops, rides, restaurants and fun!

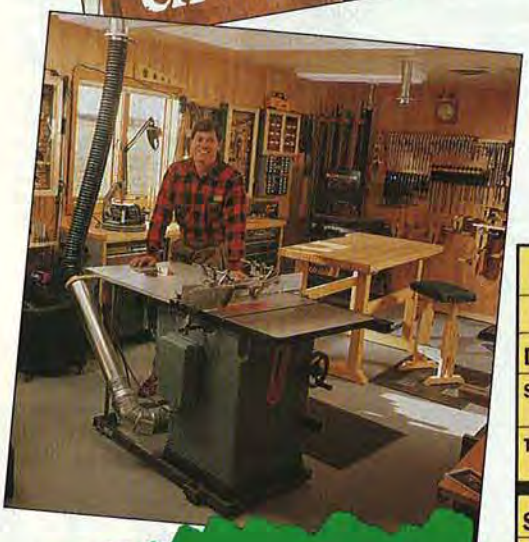
FIRST PRIZE:

One First Prize open to original and existing designs for all skill levels.

A trip to WOOD magazine's IDEA SHOP™ in Des Moines. Meet the editors and spend a day learning some great woodworking tips.*

Bottom Photo: IDEA SHOP: Editor-In-Chief Larry Clayton in the IDEA SHOP. Editors chose over 70 manufacturers to donate tools and other products for the shop.

*Transportation not included.



Six design prizes valued at over $8,500 will be awarded for toys built from original designs.

Special citation prizes are open to all woodworkers who send us a toy. There will be fifteen citation prizes valued at over $10,000 awarded.

ADDITIONAL COMPETITION PRIZES AND CATEGORIES

	STUDENT (K-12):	HOME HOBBYIST:	PROFESSIONAL:
DESIGN PRIZES: These 6 categories are open to original designs only.			
Second Prize	Delta: $1,000 in merchandise	Trendlines: $1,500 in merchandise	Eagle America Corp.: $1,500 in merchandise
Third Prize	RBI: $1,500 in merchandise	Delta: $1,500 in merchandise	Atlas Copco Electric Tools Inc.: $1,000 in merchandise
SPECIAL CITATIONS: These 15 categories are open to both original and existing designs.			
Best use of Wood	Constantine: $100 in merchandise	Craftsmans Corner: $1,500 in merchandise	Dremel: $1,500 in merchandise
Best Finish	Behlen: $200 in merchandise	Behlen: $300 in merchandise	Behlen: $500 in merchandise
Greatest Number of Toy Entries	Leichtung: $250 in merchandise	Porter Cable: $1,000 in merchandise	Econ-Abrasives: $250 in merchandise
Best Transportation Toy (Includes: Trains, Planes, Cars)	Skil: $500 in merchandise	Vermont American: $1,000 in merchandise	American Tool Cos.: Quick-Grip Bar Clamp & Vise Grip Locking Clamp ($1,000 retail value)
Best Pull Toy	Tool Crib of the North: 3303 ELU Router (retail value: $235)	Meisel Hardware Specialties: $500 in merchandise	SEARS Craftsman: $500 in merchandise

1992 Build-A-Toy entries being judged by the editors of WOOD Magazine and guest judges.

1991 CRAFTED FOR JOY exhibit: Award-winning toys on display at a children's gallery in Studio City, CA.

Holiday party in California. Over 80 underprivileged children were entertained and given a handcrafted wooden toy from WOOD magazine.

BUILD-A-TOY CONTEST:

We're proud to invite woodworkers of every age and skill level to enter our Fifth Annual *Build-A-Toy*™ Contest. Your toy may be built from original or existing plans.

Build-A-Toy™ is the best way we know of for woodworkers to get the recognition they deserve for great craftsmanship. And many of the toys submitted will be exhibited and auctioned to raise thousands of dollars to purchase toys for children.

1992 CRAFTED FOR JOY EXHIBIT:

Our Crafted for Joy exhibit of award-winning toys designed and built by previous *Build-A-Toy*™ winners will be on display at the National Crafts Festival at Silver Dollar City®. Over 300,000 people are expected to attend.

BENEFIT AUCTION:

A special auction of the toys will take place on December 6, 1992 at the Grand Palace Theater in Branson, Missouri. The money raised will be given to the Toys For Tots program of the U.S. Marine Corps Reserve so that the Marines can buy more toys for more kids. Last year's benefit auction, which took place in Studio City, CA, raised over $12,000.

ENTER NOW!

Enter our *Build-A-Toy*™ contest now; help promote the wonderful craft of woodworking, have a chance to win some terrific prizes and make a child very happy this holiday season!

A GIFT FROM WOOD:

Each person who enters our toy contest will receive a "Buy One Admission Get One Admission Free" coupon to Silver Dollar City® Theme Park.

If you enter before November 20th you'll also receive an invitation to attend WOOD's benefit auction December 6, 1992 at the new Grand Palace Theater. This is an opportunity to meet the editors of WOOD magazine and other contest entrants, and see how our *Build-A-Toy*™ and CRAFTED FOR JOY programs work together to benefit Toys For Tots.

Crafted for Joy
children's wooden toys

1993 RULES

1. Projects must fit into a box no larger than 2' x 2' x 2'. The primary material should be wood, but may incorporate other materials.
2. Please follow Consumer Product Safety Commission guidelines: nontoxic wood finishes only; no parts smaller than 1 1/4" square on toys for children under three years of age; no sharp corners or points; pull strings longer than 12" should not have beads or other attachments that could tangle and form a loop.
3. Entries must be received by February 1, 1993. All entries must be postpaid; collect entries will be refused. Attach an entry label, photocopy of an entry label or a 3-1/2" x 5" card with your name and address to each toy.
4. Woodworkers who build toys from existing plans will be eligible for First Prize and Special Citation prizes only. Woodworkers who build their own original designs will be eligible for all prizes. All entrants will receive a "buy one admission get one admission free" pass to Silver Dollar City (retail value $20.00) within 4-6 weeks of receipt of toy. One coupon per person only, regardless of the number of toys sent in. No purchase necessary.
5. Entry constitutes permission to use winner's name, hometown and photograph for promotional purposes. Employees and family members of Meredith Corporation, their affiliates and subsidiaries are ineligible. Void in Quebec.
6. Winners will be selected and notified by mail on or about April 15, 1993, and will receive the prize directly from the manufacturer/distributor. For a list of winners, send a separate, self-addressed stamped envelope to BUILD-A-TOY, 1912 Grand Avenue, Des Moines, IA 50309-3379.
7. Meredith Corporation will donate all entries or auction money received from entries to the U.S. Marine Corps Reserve Toys-for-Tots program.
8. **For woodworkers who enter their toy as an original design:** Toy must be your own original design. A different approach to an existing toy would qualify. Please do not enter toys with only subtle changes from published patterns.
9. A panel of representatives from the U.S. Marine Corps Reserve, Meredith Corporation and woodworking experts will judge the toys on child's appeal, craftsmanship, originality, and durability. The panel's decision will be final.
10. Professional woodworkers include woodworking teachers and anyone earning income by selling wooden items.
11. Grand and First Prizes do not include transportation.

WOOD® Magazine's 1993 BUILD-A-TOY™ Competition

There is no limit to the number of entries. Please provide the following information for each toy submitted.

My entry is: ❑ Original design* ❑ Built from plans

My skill level is:
❑ Student (K-12) ❑ Home Hobbyist ❑ Professional

*For Original Design entries: I certify that I have designed and built this toy myself. Should my entry win, I agree to cooperate with WOOD Magazine to supply builder's notes and a bill of materials for publication.

Signature _____

Date _____

Name _____

Address _____

City _____

State _____ ZIP _____

Phone (____) _____

Send toys to: 1993 BUILD-A-TOY, WOOD Magazine, 1912 Grand Avenue, Des Moines, IA 50309-3379

1993 BUILD-A-TOY ENTRY DEADLINE: FEBRUARY 1, 1993.

Print this article

Worth writing for...

You can get useful ideas and product information by mail. Use the coupon in this section to order your choice of literature listed below. Each company mails the catalogs or information directly to you.

POWER TOOLS

SCROLL SAW, CRAFT & WOODWORKING CATALOG—Specialty products from the exclusive distributors of HEGNER, the precision saws with SCROLLVERGNUEGEN. Complete information on scroll accessories, including blades and lettering guides. Also JET Clamps, HEGNER Lathes, PLANO Vertical Glue Press, and more. Toll-free customer service hotline included! AMI, LTD. $2.00. *Circle No. 3.*

PROFESSIONALS ONLY—Information on the new line of FELDER BF6 woodworking machines, including table saw, shaper, jointer/planer and combination machines, starting as low as $4,899. Also ULMIA Table Saws. Deal directly with the importer. Get complete information on the best professional machine value! AMI LTD. $1.00. *Circle No. 4.*

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INCA MACHINERY INFORMATION—Complete information on the famous line of Inca woodworking machines. Designed for precision work by the small to medium sized cabinet shop. Used by thousands of hobbyists and professionals. Table saws, bandsaws, joiner/planers, dust collector, radial arm saw. GARRETT WADE CO. Free. *Circle No. 44.*

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LOBO POWER TOOLS—Fine crafted woodworking power tool, top quality, affordable prices. A commitment of customer satisfaction, with a full 1 year warranty. We sell a complete line with many options for our band saws, table saws, planers, jointers, double drum sanders, edge sanders, wide belt sanders, power feeders and many, many more. Send today for a free brochure. LOBO POWER TOOLS. Free. *Circle No. 57.*

WOODWORKING MACHINE CATALOG—New 24-page color catalog introduces many new do-it-yourself woodworking machines. Includes planers, dust collectors, drill presses, sanders, lathes, and specializes in scroll saws and accessories. PENN STATE INDUSTRIES. Free. *Circle No. 75.*

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23-680	6" Bench Grinder 1/4 HP	86	75
23-880	8" Bench Grinder 1/2 HP	151	115
11-950	8" Drill Press	199	144
28-150	10" Hobby Band Saw	210	145
31-050	1" Belt sander 2.0 amp	104	78
31-460	4" Belt/Disc Sander	198	145
31-340	1" Belt/8" Disc Sander	268	188
31-080	1" Belt/5" Disc Sander	134	94
40-560	16" 2 speed Scroll Saw	266	185
11-990	12" Bench Drill Press	276	209
11-090	32" Radial Bench Drill Press	399	285
43-355	3/4" Shaper 1-1/2 HP	964	709
43-505	1/2" Bench Router/Shaper	399	279
22-540	12" Bench Top Planer	595	398
36-220	10" Compound Mitre Saw	350	239
28-180	Bench Band Saw	232	167
40-640	20" Bench Scroll Saw	466	319
23-675	NEW 6" Grndr/3x24Belt Sndr	141	105
14-600	Hollow Chisel Mortiser	668	445
46-700	12" Wood Lathe	548	419
34-761	10" Unisaw 1-1/2 HP	1715	1295
	Unisaw has $100 rebate-price is before rebate		
33-990	10" Radial Arm Saw	818	589
37-280	6" Motorized Jointer	488	395
50-179	3/4 HP 2 stage Dust Collector	463	335
70-200	20" Floor Drill Press	1049	815
33-055	8-1/4" Sawbuck comp w/legs	865	579
34-330	8-1/4" Table Saw 13A	343	228
32-100	Station Plate Jointer	645	265
36-040	8-1/4" Compound Mitre Saw	224	165
34-915	30" Unifence	385	239
34-897	50" Delta Unifence	525	285
36-755	10" Tilt Arbor Saw	1264	935
34-444	Contractors Table Saw	650	615
17-900	16-1/2" Floor Drill Press	495	395
40-601	15" Scroll Saw with stand	942	719
22-652	13" Planer complete - 2HP	1499	1169
33-060	NEW "Sidekick" Miter Saw	499	379
14-070	NEW 14" Floor Drill Press	450	325

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34-445	34-444 Saw w/30" Unifence 1200		799
37-154	OJ15 6"Jointer w/3/4HPmotor1420		1079

MILWAUKEE TOOLS

6527	NEW Sawzall with case	299	164
6526	above Sawzall w/wired cord	295	164
6125	NEW 5"Random Orbit Sander	200	119
6126	NEW 6"Random Orbit Sander	205	125
0399-1	12V cordless Drill Kit comp	304	164
0402-1	above Drill w/keyless chuck	309	168
0395-1	9.6V cordless Drill with case	284	158
0224-1	3/8" Drill 4.5 amp magnum	203	114
0234-1	1/2" Drill 4.5A mag 0-850 rpm	223	119
0244-1	1/2" Drill 4.5A mag 0-600 rpm	223	119
0222-1	3/8" Drill 3.5 amp 0-1000 rpm	189	107
0228-1	3/8" Drill 3.5 amp 0-1000 rpm	183	104
0375-1	3/8" close quarter Drill	223	127
0379-1	1/2" close quarter Drill	254	145
6539-1	cdls Screwdriver 190 rpm	127	75
6546-1	cdls Scrwdvr 200 & 400 rpm	138	82
5399	1/2" D-hdle Hammer Drill Kit	319	184
6750-1	Drywall Gun 0-4000 5 amp	162	93
6507	Original SawZall with case	249	135
6014	Orbital Sander 1/2 sheet	214	119
6977	variable temp. Heat Gun	122	75
5397-1	3.8" var. spd Hammer Drill Kit	244	138
5371-1	1/2" var. spd Hammer Drill Kit	335	185
3107-1	1/2" v/spd right angle Drill Kit	370	198
6754-1	Drywall Gun 0-4000 5.4 amp	192	114
3300-1	1/2" var. spd right angle Drill	329	184
5680	Router 2 HP - 12 amp	355	198
0235-1	1/2" Drill w/keyless chuck	223	125
6145	4-1/2" Grinder 10,000 rpm	162	98
6142	6145 with case & access	199	129
6749-1	Drywall Gun 0-2500 5.4 amp	224	122
6365	7-1/4" Circular Saw 13 amp	214	120
6367	above Saw - double insulated	209	125
6365	6365 w/lence & carbide blade	224	125
6368	6365 w/lnce,carb. blde,& case	244	138
5377	7-1/4" Worm Drive Saw	324	178
6256	Top Handle Jig Saw	220	135

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5/8" Bore - Industrial Grade

Item	Description	Teeth	List	Sale
LU72M010	Gen Pur. A.T.B.	10" 40	67	37
LU82M010	Cut-off 10"	60	90	49
LU84M011	Comb 10"	50	76	40
LU85M010	Super Cut-off	10" 80	112	58
LM72M010	Ripping 10"	24	66	38
LU73M010	Cut off 10"	60	82	44
LU87M010	Thin Kerf 10"	24	70	38
LU88M010	Thin Kerf 10"	60	86	42
LU98M010	Ultimate 10"	80	125	67

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Buy a LU85MO10,LM72MO10,& LU84MO11 blade set for 134.00 and receive a FREE one year subscription to BHG WOOD Magazine!

TK206	10" Framing	24	38	25
TK303	7-1/4" Finishing	40	37	22
TK306	10" Finishing	40	46	25
TK906	10" Combo	50	52	29
SD306	6" Dado - Carbide		215	109
SD308	8" Dado - Carbide		229	119
F0	1-3/4" x 5/8" Biscuit 1000 Qty		32	29
F10	2-1/8" x 3/4" Biscuit 1000 Qty		32	29
F20	2-3/4" x 1" Biscuit 1000 Qty		34	29
FA	Assorted Biscuits 1000 Qty		34	29
FB100	16 piece Forstner Bit Set		331	174
94-100	5 pc. Router Bit Door System		319	165
FT2000E	3-1/4 HP v/spd Plunge Router		410	209
JS100	Biscuit Jointer with case & FREE G100 Glue System		334	162

MAKITA TOOLS

Model		List	Sale
6070DW	3/8" v/spd Reverse Drill 7.2V	124	74
6071DWK	above Drill w/removable batt	194	109
5090DW	3-3/8" Saw Kit 9.6 volt	250	138
6010SDW	3/8" cordless Drill Kit 7.2V	96	59
DA3000DW	3/8" Angle Drill 7.2 volt	241	136
4390DW	9.6 cordless Recip Saw Kit	234	129
ML900	Incandescent Flashlight 9.6V	Sale	37
6012HDW	2 speed Drill w/clutch-comp.	236	125
6092DW	var. speed Drill Kit complete	257	127
6093DW	v/spd Drill w/clutch-complete	261	135
6093DWE	6093DW Drill Kit w/2 batteries	270	139
6093DWL	6093DW Drill Kit w/Flash Lt	299	169
6095DWE	6095DW Drill Kit w/2 batteries	270	139
632007-4	9.6 volt Battery	47	30
632002-4	7.2 volt Battery	39	28
5007NBA	7-1/4" Saw w/electric brake	243	129
5008NBA	8-1/4" Saw w/electric brake	301	163
B04510	1/4 sheet Pad Sander	93	54
9900B	3" x 21" Belt Sander w/bag	283	148
9924DB	3" x 24" Belt Sander w/bag	299	159
9045N	1/2 sheet Fin. Sander w/bag	246	129
4301BV	Orb. var. spd Jig Saw 3.5A	262	142
JR3000V	var. speed Recip Saw w/case	239	129
LS1020	10" Mitre Saw 3.5 amp	571	299
9820-2	Blade Sharpener	394	194
1900BW	3-3/4" Planer with case	221	116
1911B	4-3/8" Planer 7.5 amp	255	139
1100	3-1/4" Planer with case	434	229
9207SPC	7" Sander/Polisher	294	154
9514B	4" Disc Grinder 4.6 amp	100	59
3601B	1-3/8 HP Router	261	139
B04550	1/4 sheet Pad Sander w/bag	91	54
DA3000R	3/8" Angle Drill	285	149
HP2010N	3/4" var. spd Hmr Drill w/case	304	165
2708W	8-1/4" Table Saw	519	269
2711	10" Table Saw with brake	868	485
5005BA	5-1/2" Circular Saw	235	135
6404	3/8" Drill Rev. 0-2100 rpm 2 A	105	57
6510LVR	3/8" Drill Rev. 0-1050 rpm	152	83
6920V	0-4000 rpm Drywall Gun 5.2 A	160	90
6013BR	1/2" Drill Rev. 6 amp	263	139
5402A	16" Circular Saw 12 amp	675	345
3612BR	3 HP Plunge Router	347	164
9401	4" x 24" Belt Sander w/bag	343	174
4302C	var. speed Orbital Jig Saw	283	154
5077B	7-1/4" Hypoid Saw	260	138
LST440	14" Mitre Saw	759	429
LS1030	NEW 10" Mitre Saw	428	225
5007NB	7-1/4" Circular Saw 13 amp	214	114
2012	12" Portable Planer	913	465
LS1011	10" Slide Compound Saw	859	439

SENCO AIR NAILERS

SFN1	Finishing Nailer 1" - 2"	377	275
SFN2	Finish. Nailer 1-1/2" - 2-1/2"	571	395
SN325	Nailer 1-7/8" - 3-1/4"	665	455
SN4	General purpose 2" - 3-1/2"	685	468
LS2	Pinner 5/8" - 1"	351	255
SKS	Stapler 5/8" - 1-1/2"	351	255
LS5	Pinner 1" - 1-1/2"	399	285

BOSTITCH AIR NAILERS

N80S-1	Stick Nailer	Super Sale	365
N80C-1	Utility Coil Nailer	845	409
N12B-1	Coil Roofing Nailer	845	418
N60FN-2	Finishing Nailer	625	355
T31	Brad Nailer	270	162
CWC100	1 HP Pancake Compressor	445	295

SKIL SIZZLERS

3810	10" Mitre Saw	263	205
3810K	3810 w/60 tooth Carbide Blade		229
77	7-1/4" Worm Drive Saw	230	144
5825	6-1/2" Worm Drive Saw	255	159
2735-04	12 volt cordless Drill Kit	210	134
2735-04X	2735-04 with keyless chuck	235	137
1605-02	NEW Biscuit Jointer w/case	200	125
7584	NEW 5" Rndm Orbit Sander	160	104

PANASONIC CORDLESS

EY6205BC	NEW variable speed 12 volt Drill w/15 minute charger & case	390	169
EY6200B	NEW 2 speed 12 volt Drill D-handle with 15 minute charger	350	178
EY6281BC	NEW variable speed 9.6 volt Drill w/15 minute charger & case	350	169
EY571B	var. speed 9.6 volt Drill Kit	239	128
EY571BC	EY571B with case & 2 batt	275	158
EY6207BC	NEW 12 volt 1/2" Drill w/keyless chuck var. speed w/15 minute charger & case	421	218

PASLODE IMPULSE GUNS

IM250	Trimpulse Finish Nailer Kit	849	615
IM325	Impulse Framing Nailer Kit	849	615
402500	Extra Battery	Sale	42.95

HITACHI TOOLS

C7SB	7-1/4" Circular Saw	214	109
DTC10	3/8" 7.2 volt cordless Drill	138	78
C7BD	7-1/4" Circular Saw with brake	230	127
M12V	NEW 3 HP var. speed Router	447	225
TR12	Plunge Router 3 HP	354	174
F1000A	12" Planer/6" Jointer	2835	1535
C10FA	10" Deluxe Mitre Saw	538	274
C12FA	NEW 12" Mitre Saw	632	305
C8FB	8-1/2" Slide Compound Saw	899	445
FREUD	LU91M008-1/2" Carb bld 48 t	68	43
C15FB	15" Mitre Saw	745	379
FREUD	LU85M015 15"c/b/d 108 tooth	160	105

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Buy any 5 Power Tools - (can be assorted) Deduct additional 5% from Sale prices!

DELTA #34-090 10" MITRE BOX XTRA SPECIAL 198.00

DEWALT TOOLS

DW3647	1/4" Circ. Saw w/brake 13 A	245	148
DW947K	13.2 volt cdls 3/8" drill kit	377	209
DW610	1-1/2 HP 2 handle Router	250	139
DW411	1/4 sheet Palm Sander, 1.7 amp	87	54
DW100	3/8" Drill, 4 amp,0-2500 rpm,rev	110	65
DW2544	5 amp Drywall Gun, 0-2500 rpm, rev	146	89

PORTA NAILER

401	Porta Nailer complete	265	198
501	Face Nailer complete	265	195

We stock genuine Porta nails !

WERNER LADDERS

6204	4' Fiberglass	179	65
6205	5' Fiberglass	199	75
6206	6' Fiberglass	215	80

FALL KIT SPECIALS

9852K	Porter Cable 9852 Drill Kit w/extra batt	185
9853K	Porter Cable 9853 Drill Kit w/extra batt	185
7334K	Porter Cable 5" Random Orbit Sander with case & 1 roll 100X & 150X discs	253 155
7335K	Porter Cable 5" var. spd Random Orbit Sndr w/case & 1 roll 100X & 150X discs	273 155
7336K	Porter Cable 6" var. spd Random Orbit Sndr w/case & 1 roll 100X & 150X discs	278 174
555K	Porter Cable Plate Biscuit Jointer with case & 1000 assorted biscuits	339 195
JS100K	Freud Jointer w/cs & 1000 biscuits	351 188
1581VSK	Bosch Top Handle Jig Saw with case & 30 Bosch blades	305 182
1582VSK	Bosch CLIC Barrell Grip Jig Saw with case & 30 Bosch blades	305 182
JM100KK	Ryobi Joiner w/1000 biscuits	475 235

BIESMEYER FENCES

B-50	50" Commer. Saw Fence	329	295
T-SQUARE 52	52" Homeshop Fence	249	235
T-SQUARE 40	40" Homeshop Fence	242	209

WEDGE SMART LEVEL

SM-PR2	2 FT Level with sensor	120	88
SM-PR4	4 FT Level with sensor	150	105
SM-PR6	78" Level with sensor	180	139
SERIES200	NEW 2FT Level with sensor		54.95

Msx636	FEIN Electric Oscillating Triangle Sander Kit	Sale	279
LPN672	PONY Air Palm Nailer w/glove	Sale	94.99

JORGENSEN ADJUSTABLE HANDSCREWS

Item#	Jaw Length	Open Cap	List	Sale	Box of 6
#0	8"	4-1/2"	19.00	11.89	61.00
#1	10"	6"	21.78	12.89	70.65
#2	12"	8-1/2"	24.95	14.95	80.95
#3	14"	10"	31.61	18.95	104.95
#4	16"	12"	42.30	24.95	143.95

JORGENSEN STYLE 37 2-1/2"Throat 1/4"x3/4"

Item#	Jaw Length	List	Sale	Box of 6
3705	6"	9.86	6.25	34.75
3712	12"	10.92	6.75	37.75
3718	18"	12.05	7.25	40.75
3724	24"	13.16	8.19	43.75
3730	30"	14.70	9.10	49.75
3736	36"	16.05	10.19	55.75

PONY CLAMP FIXTURES

Model		List	Sale	Lots of 12
50	3/4" Black Pipe Clamps	13.61	7.99	84.99
52	1/2" Black Pipe Clamps	11.37	6.50	69.50

BOSCH

1581VS	Top Handle Jig Saw	265	135
1582VSC	NEW CLIC Barrell Jig Saw	265	135
Bosch Metal Case for above Jig Saws		34	32
Bosch 30 blade assortment for Jig Saws			26.99
1942	Heat Gun 600° - 900°	111	69
1272D	3" x 24" Belt Sander with bag	329	178
1273D	4" x 24" Belt Sander with bag	345	189
11-212VSR	Bulldog 3/4"SDS Rtry Drll	370	199
1347AK	4-1/2" Grinder w/case & access.	170	108
1348AE	5" Grinder 8.5 amp	195	118
1194VSR	1/2" var. speed Hammer Drill	264	145
1194VSRK	above Hammer Drill w/case	292	179
1608	5.6 amp Laminate Trimmer	149	84
1609K	Lam Installers Kit with 1609	309	175
1609KX	Deluxe Installers kit	361	195
1601	1 HP Router	184	114
1602	1-1/2 HP Router	215	135
1603	1/2 HP D-handle Router	252	145
1604	1-3/4 HP 2 Handle Router	236	134
1604K	same as above w/case & acc	287	165
1605	1-3/4 HP D-handle Router	273	158
3258	3-1/4" Planer w/blade guard	239	139
3258K	3258 Planer with steel case	265	154
3270D	3" x 21" Belt Sander with bag	260	145
1273DVS	var. spd 4" x 24" Belt Sander	370	188
1614	NEW 1HP Plunge Router	220	128
1614EVS	NEW 1-1/4HP v/spd Plge Rtr	255	149
1613	NEW 1-3/4 HP Plunge Router	286	164
1613EVS	NEW 2HP v/sp Plunge Router	320	184
1615	NEW 3 HP, Plunge Router	395	228
1615EVS	NEW 3 HP v/spd Plge Router	450	255
1632VSRK	Recip Saw 8.4A orb-v/spd	225	149
3050VSRK	9.6V cdls v/sp Drill Kit comp	256	138
3051VSRK	3050VSRK w/keyless chuck	266	145
1370DEVS	6" Random Orbit Sander	481	249
3283DVS	5" Random Orbit Sander	159	98
3283DVSK	3283DVS Kit complete	220	129

ELU BY BLACK & DECKER

Model		List	Sale
3338	2-1/4 HP v/spd Plunge Router	427	255
3304	1 HP var. spd Plunge Router	292	164
3375	3-1/8" Univ. planer 7.2 amp	313	155
3380	Biscuit jointer with case	542	248
4024	3 x 21 var. speed Belt Sander	322	184

BLACK & DECKER

1166	3/8" Drill 0-2500 rpm 4 amp	100	65
2600	3/8" Drill 0-1200 rpm 4.5 amp	142	89
1703	10" Mitre Saw w/73-770 blde	313	179
4011	1/4 sheet Palm Sander	82	59
79-034	Workmate 400	175	105
2694	7-1/4" Super Saw cat	248	137
2695	8-1/4" Super Saw cat	271	153

DAVID WHITE

LP6-20	Sight Level package - 20x	310	198
L6-20	Meridian Level - 20x	290	189
LT8-300	Level Transit - 26x	650	445
LT8-300P	above Level w/optical plum	769	525
LT6-900	Level Transit - 20x	389	245
ALT6-900	Automatic Level - Transit - 18x	549	385
ALTP8-900	above Level w/tripod & rod	600	438
ALP6-18HD	above Level w/tripod and rod	550	372

RYOBI SPECIALS

JP-155	6-1/8" Jointer/Planer	611	295
R500	2-1/4" HP Plunge Router	331	155
TS-254	NEW 10" Mitre Saw	397	198
TS-254K	above Saw with acc. kit & B&D 73-770 carbide blade	495	245
AP10	10" Surface Planer 13 amp	820	355
RA200	8-1/4" Radial Arm Saw	520	244
RE600	3 HP Plunge Router	431	209
BE321	3" x 21" var. spd Belt Sander	272	135
SC160	NEW 16" Bench Scroll Saw	261	139
TFD220VRK	12V cordless Drill Kit	325	165
JM100K	NEW Biscuit Jointer w/case	431	204
RS115	NEW 4-1/2" v/sp Rdm Orb Sndr	134	74
BT3000	NEW 10" Table Saw	699	545
TSS220	NEW 8-1/2" Slide Comp. Saw	790	449
TS260	NEW 10" Compound Mitre Saw	454	245

LAMELLO BISCUIT JOINTERS

TOP 10	"Simply the Best"	699	559
STANDARD 10	"Professionals Choice"	499	399
COBRA	NEW Biscuit Joiner	Special	299

PORTER CABLE

690	1-1/2 HP Router 8 amp	240	134
691	1-1/2 HP Router D-handle	260	144
695	1-1/2 HP Router/Shaper	335	204
696	HD Shaper Table	185	123
351	3" x 21" Belt Sander w/o bag	245	143
352	3" x 21" Belt Sander with bag	255	148
360	3" x 24" Belt Sander with bag	330	182
361	3" x 24" Belt Sander w/o bag	310	178
362	4" x 24" Belt Sander with bag	345	188
363	4" x 24" Belt Sander w/o bag	330	184
315-1	7-1/4" Top Hdle Circular Saw	210	118
9315-1	315-1 comp. w/cs & carb bld	240	137
617	7-1/4" Pushhandle Saw	210	119
9617	617 comp. w/case & carb bide.	240	137
314	4-1/2" Trim Saw	240	138
97750	1/2" v/spd Hammer Drill w/case	260	155
9629	Recip Saw var. speed 8 amp	250	144
666	3/8" HD v/spd Drill 0-1200 rpm	200	125
621	3/8" HD v/spd Drill 0-1000 rpm	170	104
320	Abrasive Plane 3 amp	190	125
9118	Porta Plane Kit 7 amp	360	209
7545	0-2500 Drywall Gun 5.2 amp	185	114
505	1/2 sheet Pad Sander	210	118
7511	3/8" var. speed Drill 5.2 amp	200	113
7514	1/2" var. speed Drill 0-750 rpm	210	118
7515	7514 with keyless chuck	215	124
7549	Top handle Jig Saw 4.8 amp	250	149
330	Speed Block Sander 1/4 sheet	103	58
555	Plate Biscuit Jointer with case	315	168
345	6" Saw Boss 9 amp	180	102
9345	345 comp. w/case & carb blde	210	124
5116	Omni-Jig	400	255
9647	TIGER CUB Recip. Saw	195	115
9637	Full var/spd Recip Saw 8 amp	250	138
7519	3-1/4 HP Router 2 Handle	410	224
7518	3-1/4 HP 5 speed Router	475	259
7536	2-1/2 HP 2 Handle Router	355	199
7537	2-1/2 HP D-handle Router	375	209
7538	3-1/4 HP Plunge Router	410	224
7399	5.6 amp Drywall Cutout Unit	140	85
7310	5.6 amp Laminate Trimmer	150	88
7312	5.6 amp Offset Base Lam Trim	215	124
7319	5.6A Tilt Base Lam Trimmer	170	100
97310	Laminate Trimmer Kit comp	345	192
7334	5" Random Orbit Sander	210	119
7335	5" var. spd Rndm Orbit Sndr	230	129
7336	6" var. spd Rndm Orbit Sndr	235	134
73333	NEW Dust Collection system		24.50
693	1-1/2 HP Plunge Router Base	295	165
6931	Plunge Router Base	120	75
7539	3-1/4HP var/spd Plunge Router	475	262
9852	12V 3/8"Drill w/case 0-1000rpm	270	149
9853	9852 with keyless chuck	270	149
9854	12V 1/2" Drill w/case 0-360 rpm	280	159
8500	12V battery for above drills	Sale	39

New Tools by Porter Cable

332	Palm Grip Rndm Orbit Sander	109	64
333	above Sander with dust bag	125	74
352VS	3x21 Belt Sander w/bag v/spd	280	164
7116	24" Omni Jig	470	268
334	333 Sander with PSA pad	125	74
1700	Heat Gun 750-1000 degrees	110	75
550	Pocket cutter with case	330	198
7700	10" "Lazerloc" Miter Saw	634	389

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Print this article

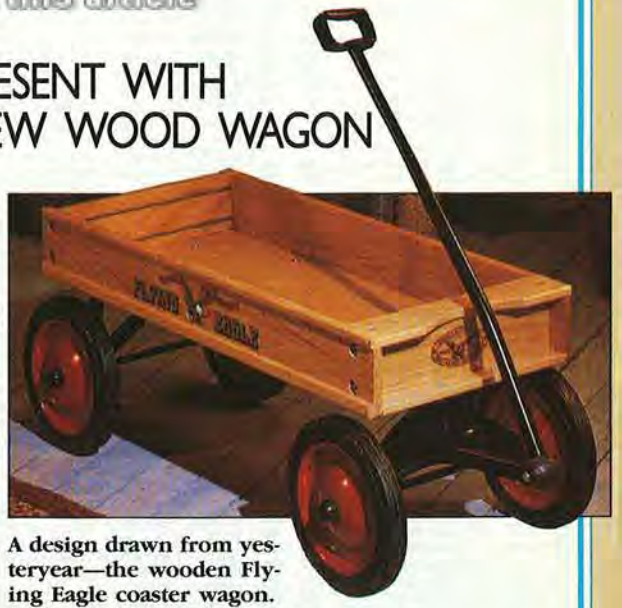
HENRY FORD NEVER WASTED WOOD

Until its closing in 1951, Ford Motor Company's Iron Mountain plant had the world's largest hardwood sawmill. Located in Kingsford, Michigan, the plant supplied all the wooden body parts for Ford vehicles. And no wood was wasted in the processing.

Bark and scrap from sawing timber into lumber went to the chemical plant for conversion to anti-freeze and ethyl acetate. Then, the residue from the chemical processing was passed on to the carbonization plant where it was made into charcoal briquets (Ford was thus the first to manufacture briquets as we know them). Sawdust and wood waste from parts manufacturing fueled the fires that made steam for the wood-drying kilns and to power some machinery.

After the facility shut down, Ford leased parts of it for a number of years to the Kingsford Chemical Co. Today, nothing remains of the remarkable plant except a pile of rubble and some smokestacks. But Kingsford charcoal briquets, now made by a California company, remain a backyard reminder of Henry Ford's thriftiness.

BACK TO THE PRESENT WITH RADIO FLYER'S NEW WOOD WAGON



A design drawn from yesteryear—the wooden Flying Eagle coaster wagon.

In tribute to the Old-World craftsmanship the company's founder brought to America in 1917, Chicago's Radio Flyer, Inc. has returned real wood to kids' coaster wagons. The Flying Eagle (about $100 retail), shown *right*, is one model in a new line of Craftsman Classics that features oak construction.

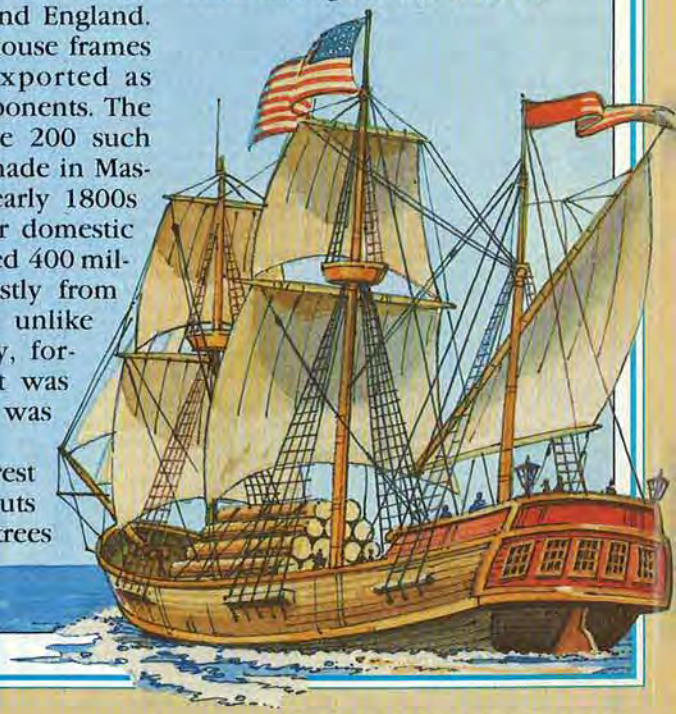
The original Liberty Coaster wagon was built by night in a one-room shop, then sold by day in the Windy City. Its name came from the freedom found in a new homeland. The red, all-steel Radio Flyer wagon introduced in 1933 still makes up part of the riding-toy line. For a nearby dealer, call 800/621-7613.

FOREST PRODUCTS: PAST AND PRESENT

The exportation of American wood and wood products isn't unique to the 20th century. In the 1600s, for instance, the Massachusetts Bay Company regularly shipped hand-split pine and cedar clapboards and shingles to England for resale.

In 1770, the colonies exported 42 million board feet of lumber to the West Indies and England. Even prefabricated house frames were commonly exported as knocked-down components. The year 1791 saw some 200 such frames shipped, all made in Massachusetts. By the early 1800s lumber produced for domestic use and export totaled 400 million board feet, mostly from the East Coast. But unlike today, unfortunately, forestry as we know it was unknown and there was no replanting.

Now, the U.S. forest products industry cuts about 500 million trees annually, and exports an estimated 9 billion board feet of wood products made from them. To replace the harvest, industry, federal and state agencies, municipalities, and individual tree farm owners plant nearly 3 billion seedlings each year as well as stimulate natural regeneration through silviculture.



TREE TRIVIA

How many kinds of trees do we have? The United States alone has 865 native species of trees, and about 200 naturalized species.

The tree with the largest range is the quaking aspen. It's found all across Canada and everywhere in the U.S. except the South and Southeast. Ashe's birch has the smallest—one county in Virginia.

Illustrations: Jim Stevenson Photograph: courtesy of Radio Flyer

NOW! PLANE, MOLD, SAND and SAW with

Infinitely Variable Power-Feed!

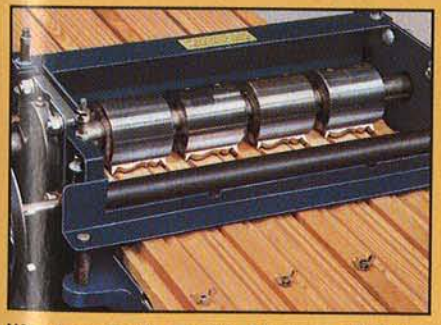
MAKES YOU MONEY... SAVES YOU MONEY!

Put this versatile power-feed tool to work in your shop . . . see how fast it pays for itself! Quickly converts low-cost rough lumber into valuable finished stock. Turns out perfect picture frame moldings, quarter-round, casing, tongue and groove . . . all popular patterns . . . any custom design.

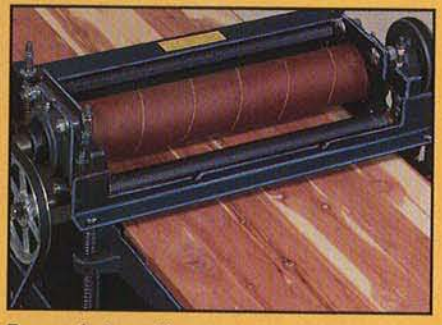
✔ **Just a twist of the dial** puts twice as many cuts-per-inch at your fingertips as any comparable planer – from 70 to over 1,000 CPI! This heavy-duty machine will sail through even the toughest oak at higher speeds, or you can slow it down to handle those "hard-to-work" pieces like curly maple, knotty cedar, burls, knees and much more! A valuable feature for molding work, where profiles make sanding impossible.

✔ **Change to Molding, Sanding or Sawing in just minutes!** Unique "Morse-Taper" Quick Change Cutterhead guarantees fast changeover . . . bearings remain factory set . . . precisely aligned at all times.

✔ **Now choose from three powerful models!** Woodmaster introduces the first 18″ and 25″ Planer/Molders . . . with all the features that have made the 12″ model the most versatile Planer/Molder on the market! Send for Free Facts today!



Woodmaster's Quick-Change Molding Head lets you create custom moldings from any stock. Choose from over 250 standard trim and picture frame patterns . . . or design your own!



Power-fed sanding speeds production and improves the quality of your work. No more waves or cross-grain scratches. Separate sanding head installs in just minutes.

New ripsaw attachment lets you gang-rip with power feed in a fraction of the time it takes for multiple hand-fed passes on an ordinary table saw.

MAIL TODAY OR CALL 1-800-821-6651 Ext PW57

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Here's What Woodmaster Owners Say:

Shop Test Results–"It does an excellent job of planing, on a par with more expensive machines, and even better than some commercial models."

Editor, Workbench Magazine

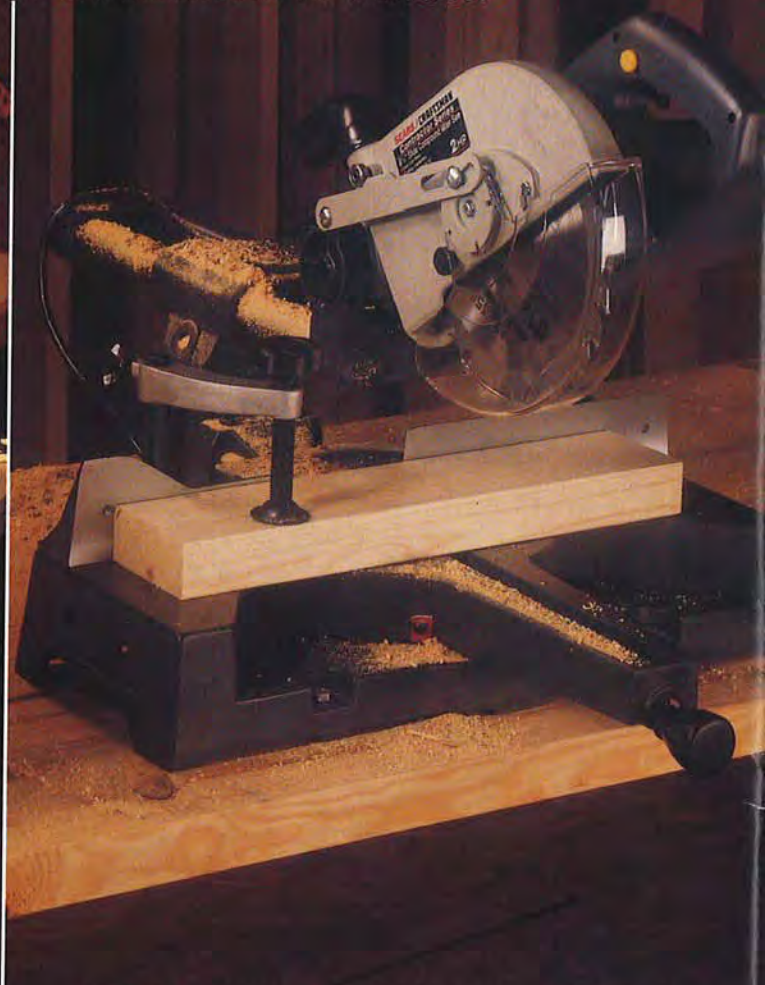
Best Value–"After checking them all, Woodmaster was obviously the best deal for the money. Also, I would like to acknowledge the polite and prompt service."

E. D. Holtz, North Carolina

Create a Mouse.

Frame a House.

Two great new tools in the Craftsman Contractor Series can take you from the detail of a mouse to the structure of a house.



It's a fact! Our new 20" Scroll Saw lets you cut the corners a little finer thanks to the many features we've designed in . . . a specially tuned leg stand and our anti-vibration counter-weight system for superb control at the cutting line; variable speed capability for cutting different materials; pin and plain-end blades for the finest detail work; extra large storage capacity to keep all your blades conveniently at hand.

And Craftsman's new 8 1/4 Slide Compound Miter Saw is also a remarkable tool. It can cleanly cut a 2"x12" at the job site, or tackle the intricate compound angles required for crown moldings and trim work.

Its 10 amp motor, four miter stops left and right of zero, the built in crown molding scales, and attractive price help make it an industry leader.

Any way you cut it, Craftsman's Contractor Series tools provide the professionalism you need for your next project. See them at your local Sears retail store, or order direct from our Sears catalog by dialing our toll free number, 1-800-366-3000.

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